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Management
Consultants

1991

Roth Bros
EPA
RFA Report

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ATKEARNEY

WASTE FACILITY MANAGEMENT
DIVISION OF
HAZARDOUS SUBSTANCES REGULATION

October 8, 1991

Ms. Jane Leu
Regional Project Officer
U.S. Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Reference: EPA Contract No. 68-W9-0040; Work Assignment No. R02-16-04; Roth Brothers Smelting Corporation; East Syracuse, New York; EPA I.D. No. NYD006977006; RCRA Facility Assessment; Draft Phase II Report; Deliverable

Dear Ms. Leu:

Enclosed please find the draft Phase II RCRA Facility Assessment (RFA) Report for the above-referenced facility. This report presents information gathered during and subsequent to a Visual Site Inspection (VSI) conducted at the facility. The report also includes supplemental information contained in the Preliminary Review (PR) Report submitted to EPA on April 24, 1991. Information for the PR was gathered from the New York State Department of Environmental Conservation (NYSDEC) offices in Rochester, New York and Syracuse, New York.

The VSI was performed on April 29 and 30, 1991. However, preparation of this draft report was delayed until September while EPA Region II established a new RFA format. Based on the PR and VSI, a total of 48 Solid Waste Management Units (SWMUs) and two Areas of Concern (AOCs) were identified at the facility. 48 SWMUs

Since 1927, the Roth Brothers Smelting Corporation has reclaimed non-ferrous metals and alloys through secondary smelting and refining of purchased scrap, drosses, and by-products. In 1949 the company moved to its present location off Thompson Road in East Syracuse, New York.

The current facility covers approximately 32 acres which contain two principal areas of operation, Plant Nos. 1 and 2, as well as surrounding storage areas. The facility's primary products have included lead-tin solder, copper, aluminum, and zamac (a zinc/aluminum alloy). However, copper and lead-tin solder processing operations were discontinued in April and July 1991, respectively.

Hazardous wastes handled by the facility include emission control dust/sludge from secondary lead smelting (K069) and emission control dust from aluminum processing which contains lead and cadmium (D008 and D006). These wastes are collected in four Baghouses (SWMUs 2, 21, 22, and 23) and are stored in three emission dust storage areas (SWMUs 11, 35, and 36) prior to being disposed as hazardous waste. According to facility representatives, the emission control dust from Roth Brothers' fifth Baghouse (SWMU 3) is not hazardous by TCLP analysis.

The facility has had a prior history of SPDES and air permit violations. PCBs were detected in the facility's SPDES Outfall 004 Drainage Area (SWMU 48) in 1984, 1986, 1987, and 1988. This outfall receives drainage from roof drains, the Northeast Drainage Ditch (SWMU 13), and the Aluminum Turnings Storage Yard (SWMU 8). PCBs were also detected in the Outfall 001 Drainage Area (SWMU 45) in 1988. NYSDEC hypothesized that the PCBs may have been due to drainage of PCB contaminated oils from aluminum turnings or to the infiltration of groundwater into the Roth Brothers' sewer system. Roth Brothers has suggested that these PCBs could potentially have been brought on site in electrical cable purchased for metal recovery. According to facility representatives, Roth Brothers has not detected a PCB violation of their SPDES permit since the repair of a storm sewer manhole in 1988.

In 1990 and 1991, Roth Brothers conducted soil and groundwater investigations of Plant Nos. 1 and 2. Draft reports from these initial studies have indicated soil contamination by lead, chromium, cadmium, PCBs and oil and grease; however, no significant impact on groundwater has been identified to date.

Prior to the early 1970's, Roth Brothers was reportedly considered by NYSDEC as "one of the worst air polluters in the region" because of the large amounts of black smoke and flames which regularly emanated from the facility. By 1974, the NYSDEC characterized the facility as a "fairly well controlled plant" with respect to air emissions.

Based on their potential for release to soil, confirmatory sampling has been suggested for the Loading Station for Fuel Tanks (SWMU 9), the Secondary Containment for Fuel Tanks (SWMU 10), the Northeast Drainage Ditch (SWMU 13), and the Former Substation (SWMU 44).

Based on documented releases, an RFI has been suggested for the Aluminum Turnings Storage Yard (SWMU 8), Baghouse No. 4 (SWMU 22), the Northern Waste Storage Area (SWMU 29), the Steam Cleaning Room (SWMU 32), the Diesel Pumping Station (SWMU 33), the Lead Dross Shed (SWMU 42), the Suspected Oil Seep Area (SWMU 43), the Outfall 001 Drainage Area (SWMU 45), the Outfall 002 Drainage Area (SWMU 46), the Outfall 003 Drainage Area (SWMU 47), and the Outfall 004 Drainage Area (SWMU 48).

Integrity testing has been suggested for the Inground Oil/Water Separator (SWMU 5), the Hydraulic Oil/Water Separator (SWMU 6), the Sweat Furnace Oil/Water Separator (SWMU 28), and the Stormwater Drainage System (SWMU 39). An evaluation of air emission controls for the Aluminum Furnaces, the Dust Collector, and the Lime Ash Bag Storage Area (SWMUS 4, 20, and AOC D) is also suggested, and it is recommended the facility cease discharging any collected liquid from the Secondary Containment for Fuel Tanks (SWMU 10). No further action has been suggested for the remaining SWMUs and AOCs identified at the facility.

If you have any questions or comments concerning this report, please feel free to call me, or Dr. Denise Turner, the Kearney Team Work Assignment Manager, who can be reached at (404) 393-9900.

Sincerely,

William Goold

William Goold
Technical Director

Enclosures

cc: E. Stein, EPA Region II (2 Copies)
P. Counterman, NYSDEC
A. Glazer
L. Poe
J. Atlas (w/o Attachment)
D. Turner
J. Schliesmann
J. Atchue

DRAFT PHASE II RCRA FACILITY ASSESSMENT REPORT

FOR THE

ROTH BROTHERS SMELTING CORPORATION
EAST SYRACUSE, NEW YORK
EPA I.D. NO. NYD006977006

Submitted by:

A.T. Kearney, Inc.
Kearney/Centaur Division
One Wall Street Court
Third Floor
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Submitted to:

Ms. Jane Leu
Regional Project Officer
U.S.Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

In response to:

EPA Contract No. 68-W9-0040
Work Assignment No. R02-16-04

October, 1991

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DRAFT PHASE II RCRA FACILITY ASSESSMENT REPORT

ROTH BROTHERS SMELTING CORPORATION
EAST SYRACUSE, NEW YORK

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EAST SYRACUSE, NEW YORK

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I. Introduction

The 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) authorize EPA to require corrective action for releases of hazardous waste or hazardous constituents from Solid Waste Management Units (SWMUs) and other Areas of Concern (AOCs) at all operating, closed, or closing RCRA facilities. The intent of this authority is to address previously unregulated releases to air, surface water, soil, and ground water; the generation of subsurface gas is also considered. The first phase of the corrective action program, as established by EPA, is development of a RCRA Facility Assessment (RFA). The RFA includes a Preliminary Review (PR) of all available relevant documents, a Visual Site Inspection (VSI), and, if appropriate, a Sampling Visit (SV). Sources of information used in the Phase II RFA Report included RCRA, air, and water files from the NYSDEC offices in Rochester, New York and Syracuse, New York.

This report summarizes the results of the PR submitted to EPA on April 24, 1991 and VSI conducted on April 29 and 30, 1991 of the Roth Brothers Smelting Corporation (Roth Brothers) in East Syracuse, New York. Since 1927, Roth Brothers has reclaimed non-ferrous metals and alloys through secondary smelting and refining of purchased scrap, drosses, and by-products. In 1949 the company moved to its present location off Thompson Road in East Syracuse, New York.

Hazardous wastes handled by the facility include emission control dust/sludge from secondary lead smelting (K069) and emission control dust from aluminum processing which contains lead and cadmium (D008 and D006). These wastes are collected in four Baghouses (SWMUs 2, 21, 22, and 23) and are stored in three emission dust storage areas (SWMUs 11, 35, and 36) prior to being disposed as hazardous waste. According to facility representatives, the emission control dust from Roth Brothers' fifth Baghouse (SWMU 3) is not hazardous by TCLP analysis.

A total of 48 SWMUs and two AOCs have been identified at the facility. A complete list of these units is shown in Table IV-1 and their locations are shown in Attachment C. Those units for which further actions are suggested are listed in Table I-1, along with the suggested further action.

This report is organized into six chapters and several attachments. Chapter II provides a general facility description, process descriptions, and information concerning the facility's waste management practices, regulatory history, and release history. Chapter III discusses the environmental setting of the facility, including location, surrounding land use, climate and meteorology, groundwater, and receptors. Chapter IV provides a description of each SWMU and AOC. Chapter V lists the references

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Table I-1

List of SWMUs and AOCs Requiring Further Action

SWMU No.	SWMU Name	Suggested Further Action
4	Aluminum Furnaces (3)	Evaluate Emission Controls
5	Inground Oil/Water Separator	Integrity Testing
6	Hydraulic Oil/Water Separator	Integrity Testing
7	Hydraulic Oil Empty Drum Storage Area	RCRA Facility Investigation
8	Aluminum Turnings Storage Yard	RCRA Facility Investigation
9	Loading Station for Fuel Tanks	Confirmatory Sampling
10	Secondary Containment for Fuel Tanks	Confirmatory Sampling/Cease Discharging Collected Liquids
13	Northeast Drainage Ditch	Confirmatory Sampling
20	Dust Collector	Evaluate Emission Controls
22	Baghouse No. 4	RCRA Facility Investigation
28	Sweat Furnace Oil/Water Separator	Integrity Testing
29	Northern Waste Storage Area	RCRA Facility Investigation
31	Waste Oil Burner	Evaluate Emission Controls
32	Steam Cleaning Room	RCRA Facility Investigation
33	Diesel Pumping Station	RCRA Facility Investigation
39	Stormwater Drainage System	Integrity Testing
42	Lead Dross Shed	RCRA Facility Investigation
43	Suspected Oil Seep Area	RCRA Facility Investigation
44	Former Substation	Confirmatory Sampling
45	Outfall 001 Drainage Area	RCRA Facility Investigation
46	Outfall 002 Drainage Area	RCRA Facility Investigation
47	Outfall 003 Drainage Area	RCRA Facility Investigation
48	Outfall 004 Drainage Area	RCRA Facility Investigation

AOC	AOC NAME	Suggested Further Action
B	Lime Ash Bag Storage Area	Evaluate Emission Controls

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used in preparing this review and Chapter VI presents conclusions and suggested further actions for the SWMUs and AOCs. The attachments include a VSI summary with a copy of the field log, a photographic log, a SWMU/AOC location map, TCLP results, and analytical data from the facility's investigations of Plant Nos. 1 and 2.

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II. General Description

II-A. Facility Description

Since 1927, Roth Brothers has reclaimed non-ferrous metals and alloys through secondary smelting and refining of purchased scrap, drosses, and by-products. In 1949 the company moved to its present location off Thompson Road in East Syracuse, New York (Reference 53).

The current facility covers approximately 32 acres which contain two principal operations areas Plant Nos. 1 and 2 (with a combined area of 200,000 square feet), as well as surrounding storage areas. The original operations were conducted in Plant No. 1 and Plant No. 2 was added in the mid-1950's. Figure II-1 shows the L-shaped tract occupied by the facility and the two Plants which are separated by a railroad right-of-way (apparently owned by Oberdorfer Foundry). The entire property is enclosed by a chain link fence with access provided by the main gate off Thompson Road. The Plants operate 5.5 days per week, 24 hours per day. The location of the facility and surrounding land use are described in greater detail in Section III-A (References 1, 53, and 56).

Figures II-2 and II-3 provide greater detail concerning the layouts of Plant Nos. 1 and 2, respectively. Note that areas of Plant No. 1 are designated as Buildings 1 through 5, 6A, 6B, 7, and 8 although the entire structure is under one roof. The facility has also subdivided Plant No. 2 (also under one roof) into Buildings 1, 1A, 1B, and 2 through 6 (Reference 53).

Historically, facility operations have consisted of aluminum and zinc smelting, lead-tin solder operations, and copper insulation incineration. Aluminum and zinc operations are primarily conducted in Plant No. 1, although the Aluminum Crusher (SWMU 19) is located in Plant No. 2. Lead and copper processing operations, which were conducted in Plant No. 2, ceased in April and July 1991, respectively (References 14, 52, and 53). On May 6, 1991 the company announced plans to add aluminum smelting capacity of 25,000 tons per year by closing and remodeling the lead-tin solder operations (Reference 51).

The facility stores purchased scraps, drosses, and by-products in paved and unpaved areas in and around the two Plants, including the Aluminum Turnings Storage Yard (SWMU 8) and the Northern Waste Storage Area (SWMU 29). Some partially processed materials are stored in bins inside the Plants prior to smelting, and aluminum drosses and aluminum fines (produced during aluminum processing operations) are stored in various locations throughout

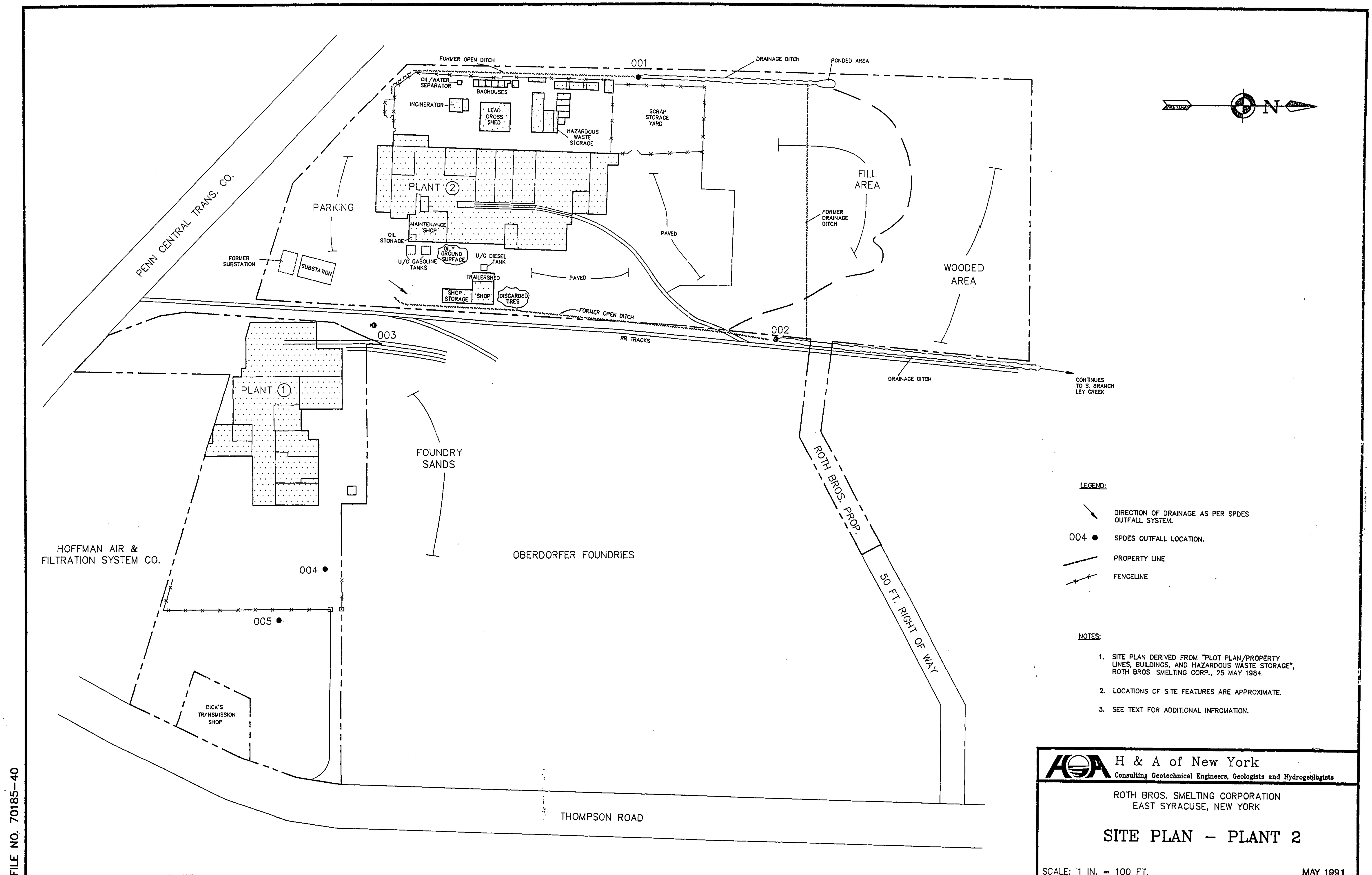

Figure II-1

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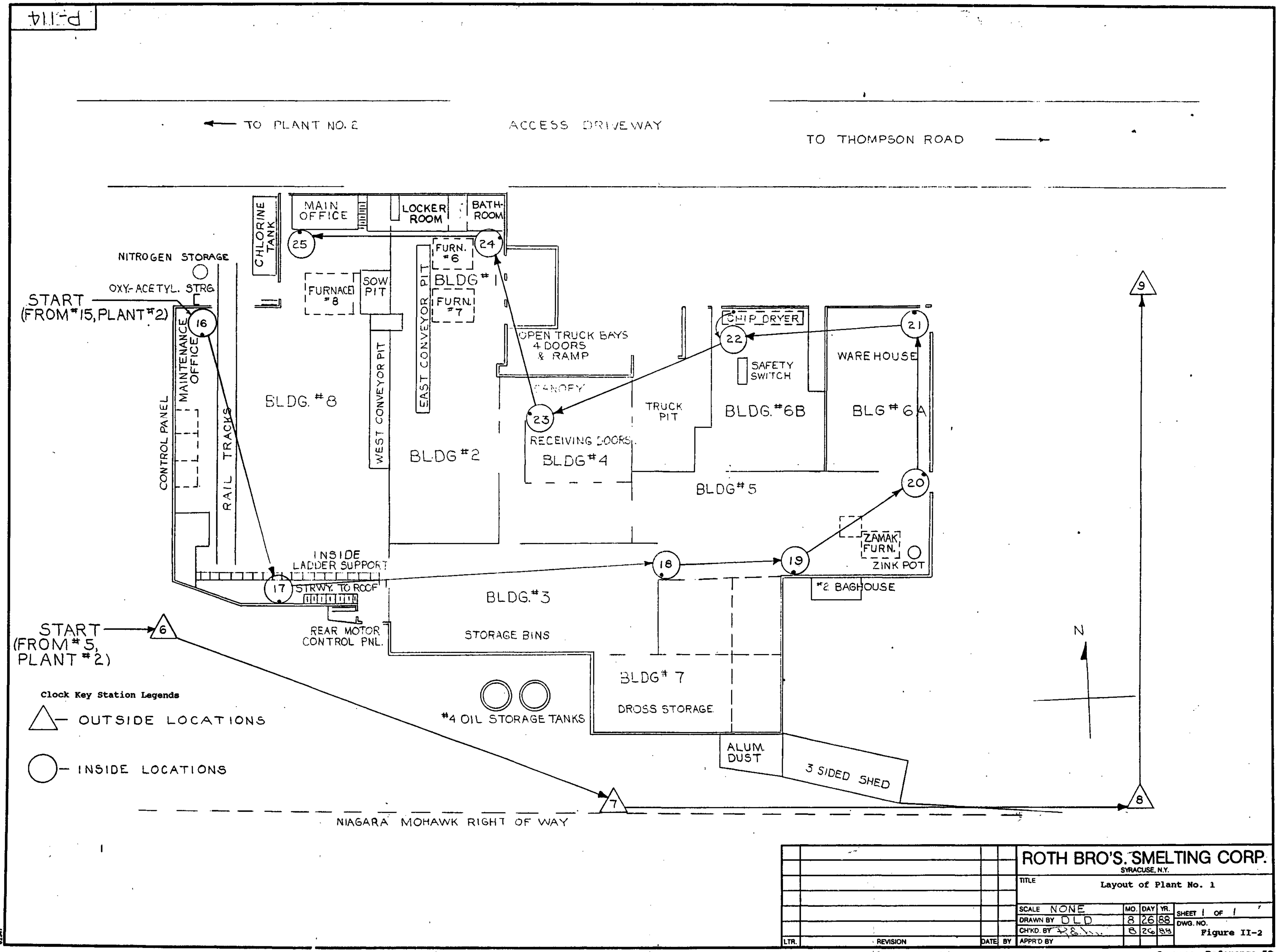

Source: Reference 53

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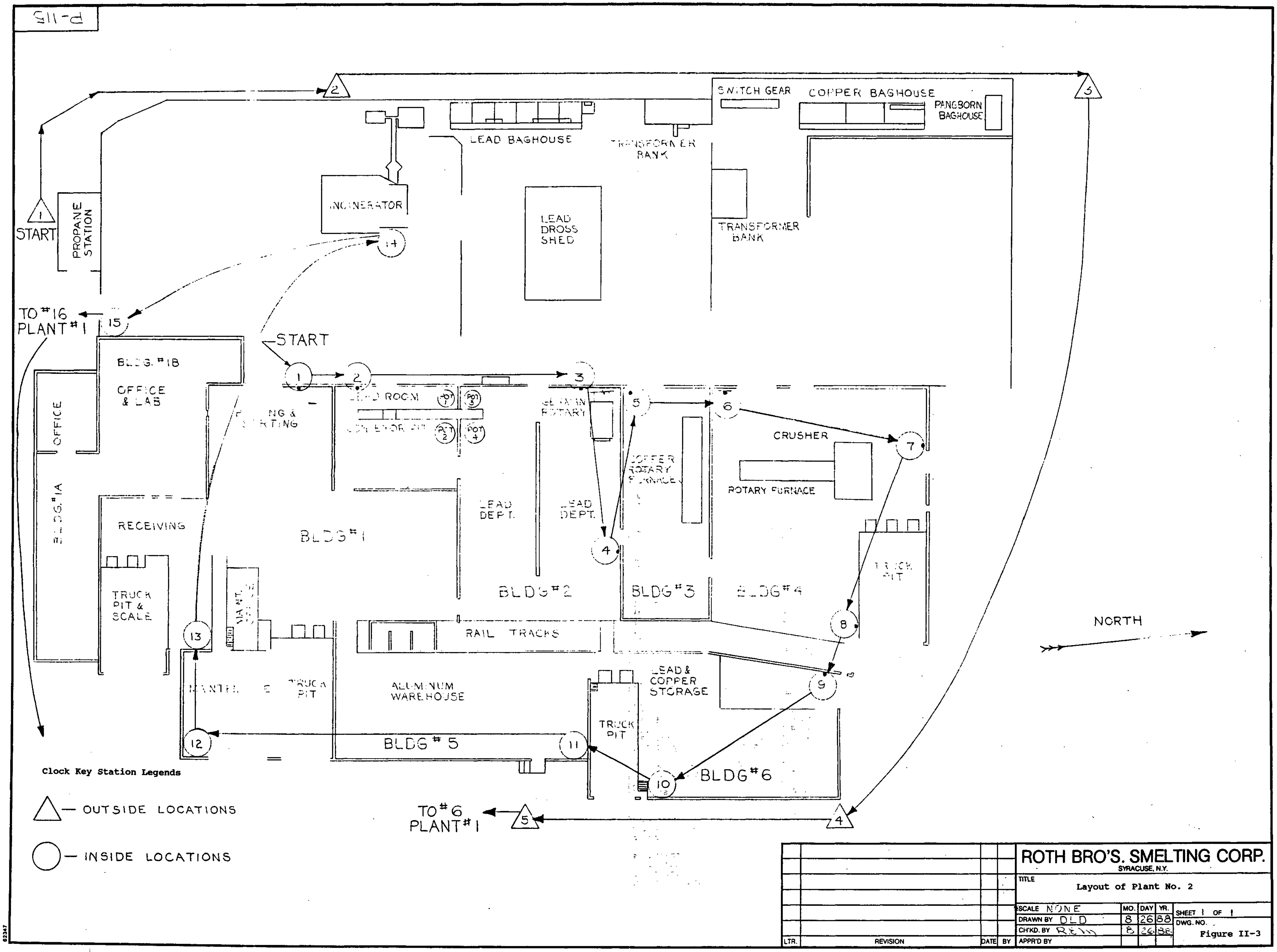

Source: Reference 53

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the facility prior to being sold to other recyclers. Finished products are stored inside the Plants prior to shipment to customers (Reference 53).

II-B. Process Description

Roth Brothers reclaims non-ferrous scrap metals and alloys through secondary smelting and refining of scrap metal, drosses, and by-products. For approximately two years in the 1980's, the facility also processed wastewater treatment sludges from electroplating operations (F006). Roth Brothers has processed small quantities of brass, bronze, stainless steel materials; however, these items are not refined. They are simply sorted, graded, and repackaged for sale (References 1, 14, and 17).

The facility's primary products have included lead-tin solder, copper, aluminum, and zamac (an alloy containing 96% zinc and 4% aluminum). According to facility representatives, copper and lead-tin solder processing operations were discontinued in April and July 1991, respectively (References 52 and 53).

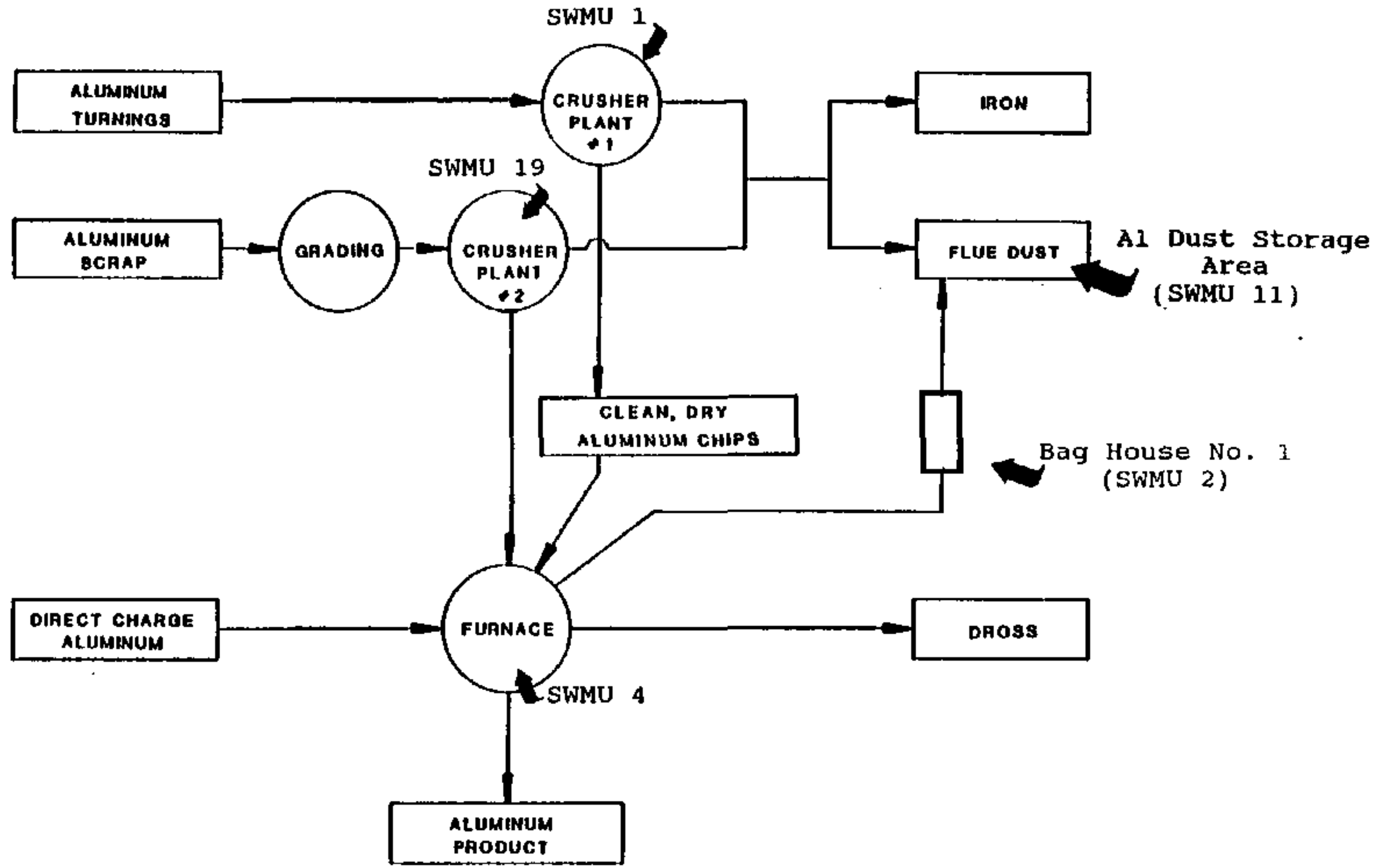
Materials to be reclaimed are trucked to the facility and stored prior to processing in various storage areas in and around Plant Nos. 1 and 2. Process descriptions for the aluminum, zinc/zamac, copper, and lead-tin solder processes are provided below:

Aluminum Production

The facility began aluminum smelting at this site in 1949. Roth Brothers currently produces an estimated 80 million pounds per year of reprocessed aluminum. Approximately 5 to 10 million pounds per year of aluminum dross (a by-product of the smelting process) and an estimated 300,000 pounds per year of aluminum fines (from the Aluminum Crusher, SWMU 19) are also generated during aluminum processing; these materials are sold to other aluminum recyclers. A flow diagram of the aluminum production process is provided in Figure II-4.

Approximately 20% of incoming aluminum scrap can be charged directly into the Aluminum Furnaces (SWMU 4) in Plant No. 1, but the remaining 80% must first be prepared for smelting in the Aluminum Crusher (SWMU 19) and the Chip Dryer (SWMU 1). Larger aluminum scraps (approximately 40% of incoming scrap) are moved by a conveyor belt into the Aluminum Crusher (SWMU 19) in Plant No. 2 to break the material into small chips. Depending on the size, 5000 to 20,000 pounds per hour of aluminum scrap can be processed in this unit. Oil and grease are then removed by heating the chips in a rotary dryer associated with the Aluminum Crusher (SWMU 19). Smaller scraps (approximately 40% of incoming scrap) are charged directly to the Chip Dryer (SWMU 1) in Plant No. 1 to remove oil and grease prior to smelting (by heating the

Figure II-4   Flow Diagram of the Aluminum Production Process



Source: Reference 52

chips to approximately 700°F). Both units also magnetically extract any ferrous materials (References 52 and 53).

Once the melted aluminum alloy meets specifications, the furnaces are tapped and the alloy is poured into ductile iron molds attached to a conveyor belt. The ingots are water cooled until they reach a safe handling temperature (Reference 9).

From the early 1960's until April 1991, the facility also processed aluminum and other metals in a Sweat Furnace (SWMU 26). This unit was operated on an as needed basis to separate physically joined metals of two different melting points (e.g., iron/aluminum and iron/solder) (References 52 and 53).

On May 6, 1991 the company announced plans to add new aluminum smelting capacity (25,000 tons per year) by closing and remodeling the lead-tin solder operations in Plant No. 2 (Reference 51).

<u>Zinc/Zamac Production</u>

The facility has processed zinc since approximately 1955. Roth Brothers currently produces an estimated 6 million pounds per year of zinc products. A flow diagram of the zinc and zamac production processes is provided in Figure II-5.

Zinc slag is refined in the Zinc Pot (SWMU 15), and high purity zinc (99.99% pure) and aluminum scrap were processed in the Zamac Furnace (SWMU 14) until it ceased operation in 1989. From the early 1960's until April 1991, the facility also processed zinc and other metals in a Sweat Furnace (SWMU 26). This unit was operated on an as needed basis to separate physically joined metals of two different melting points (e.g., zinc/iron, iron/aluminum, and iron/solder) (References 52 and 53).

<u>Copper Production</u>

From the early 1960's until April 1991, the facility removed insulation from copper wire in the Copper Furnace (SWMU 27) and the Copper Wire Incinerator (SWMU 25). The resulting copper wire was simply bailed and sold. A flow diagram of the copper production process is provided in Figure II-6.

In the early 1980's, the facility ceased burning wire insulated with plastic (polyvinyl chloride or PVC) because it could not economically control the resulting hydrochloric and hydrofluoric acid fumes. However, Roth continued to process paper insulated copper wire until the Furnace and the Incinerator were taken out of service in April 1991 (Reference 53).

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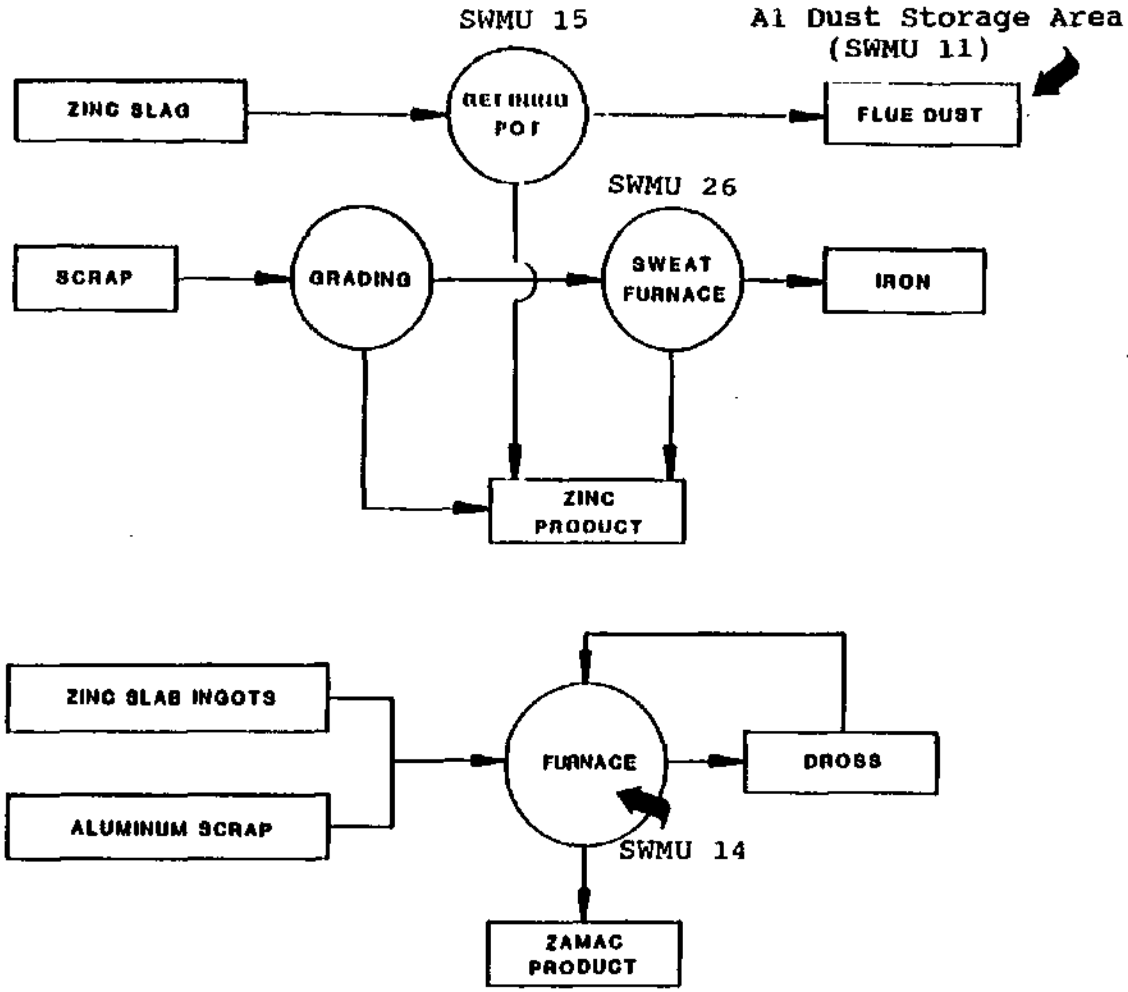
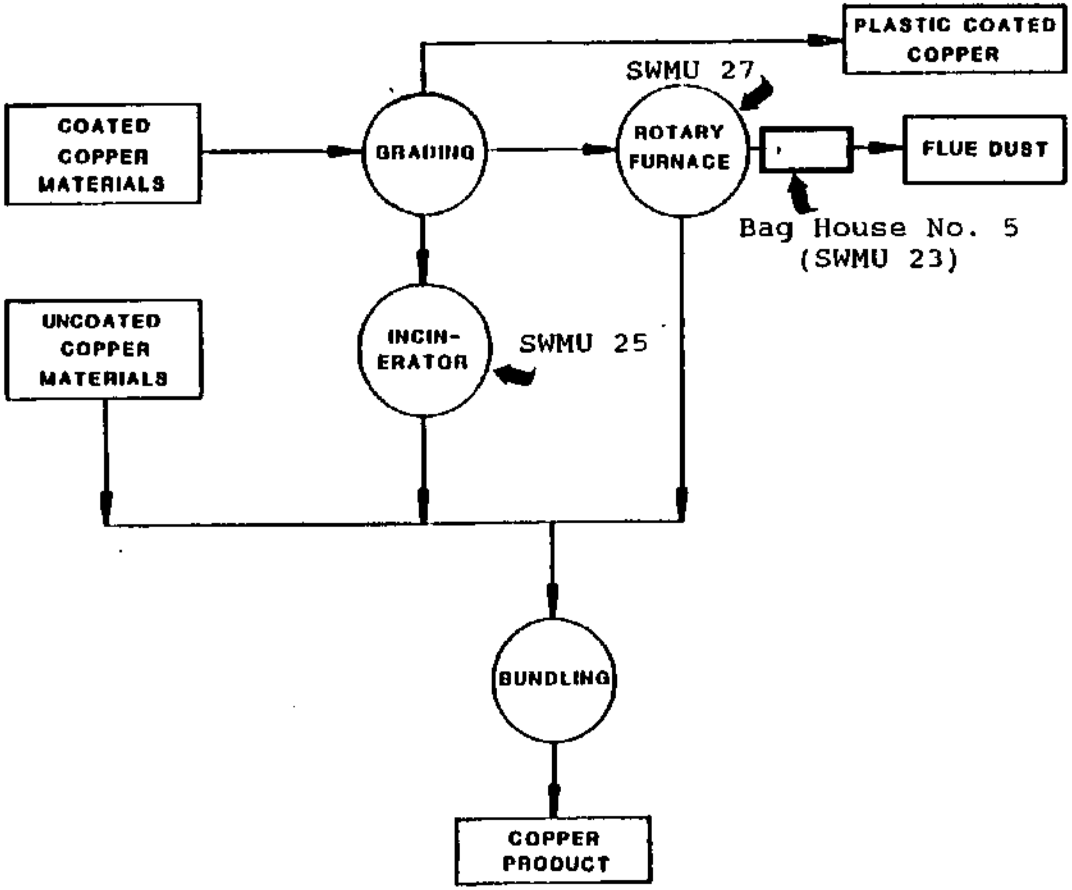
Figure II-5 Flow Diagram of the Zinc and Zamac Production Processes



Source: Reference 52

Figure II-6   Flow Diagram of the Copper Production Process



Source: Reference 32

Lead-Tin Solder Production

From approximately 1955 until July 1991, Roth Brothers produced up to 20 million pounds per year of lead-tin solder products. In May 1991 the company began closing these operations to make room for increased aluminum smelting capacity (Reference 51). A flow diagram of the lead-tin solder production processes is provided in Figure II-7.

Lead drosses (oxides of lead and tin), soda ash, and other fluxing agents were charged into the reducing atmosphere of the Lead Furnace (SWMU 16) or the smaller Lead Tilt Furnace (SWMU 18) to produce specific lead-tin solder products. For approximately two years in the 1980's, the facility also smelted wastewater treatment sludges from electroplating operations (F006) containing hydroxides of calcium, lead, copper, and tin (Reference 52).

Once the melted lead-tin alloy met specifications, the Furnaces were tapped and the alloy was poured into a star wheel conveyor to make lead-tin ingots and wire for the automotive industry. The ingots were water cooled until they reached a safe handling temperature (Reference 9).

The facility operated four Lead Pots (SWMU 17) to process lead scrap and unrefined solder (not lead oxides) from the Sweat Furnace (SWMU 26) and lead cable stripping operations. The Lead Pots also produced lead-tin solder products to customer specifications (Reference 53).

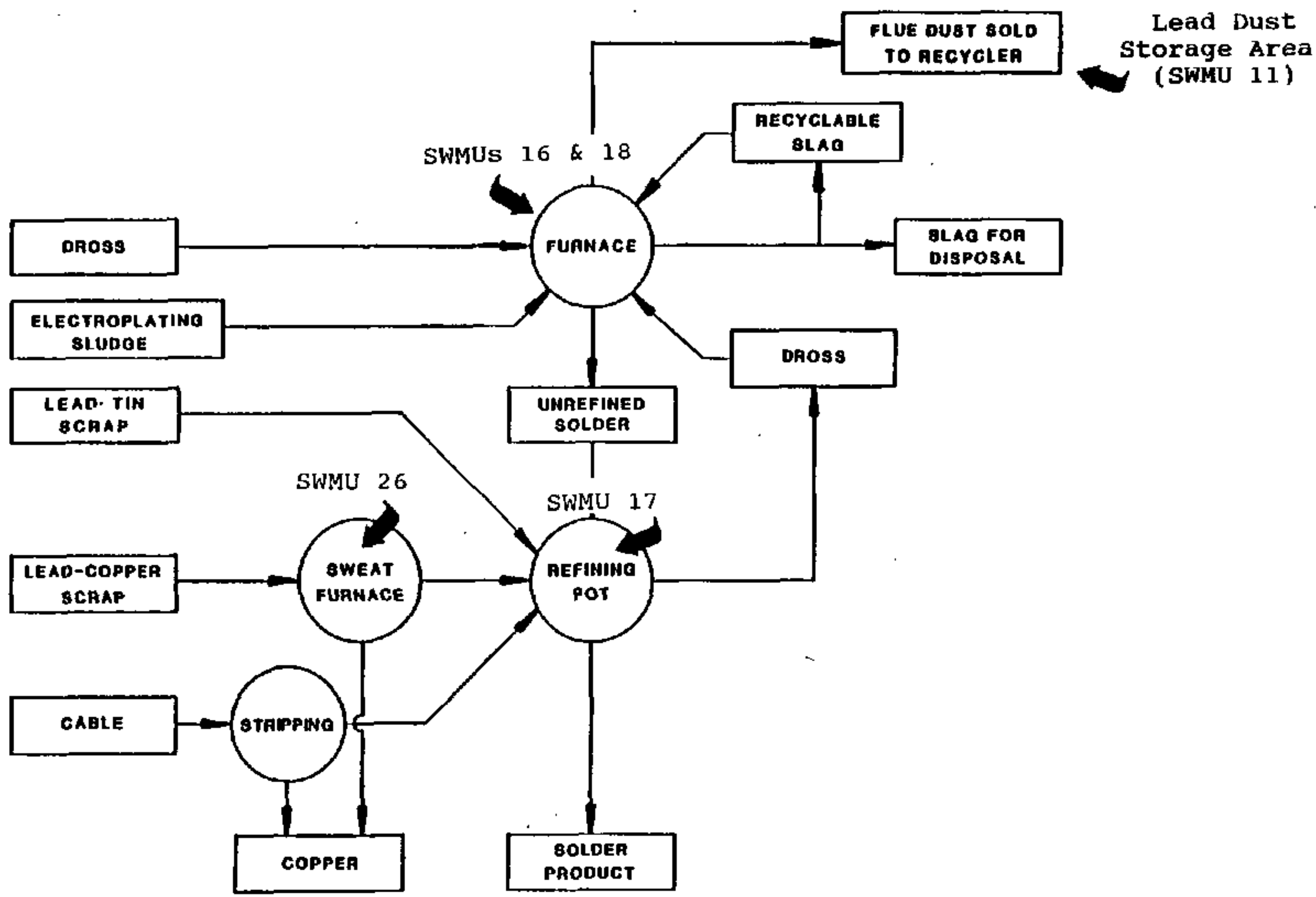
II-C. Waste Generation and Waste Management Practices

Table II-1 provides the estimated volumes and generation period of the wastes produced by Roth Brothers. Each of these wastes is discussed by process below:

Aluminum Processing Wastes

During the processing of aluminum scrap, the facility generates scrap iron, aluminum dross, aluminum fines, contact cooling water, and baghouse dust. The scrap iron is accumulated on site primarily in the Northern Waste Storage Area (SWMU 29) and is periodically sold to a recycler. The aluminum dross (approximately 5 to 10 million pounds per year) and aluminum fines (approximately 300,000 pounds per year) are sold to a recycler; approximately 200,000 pounds per year of waste aluminum fines from the Chip Dryer (SWMU 1) are stored in the Waste Aluminum Fines Storage Area (SWMU 12) and disposed as nonhazardous waste (after TCLP analysis). Aluminum dross has been stored in various locations throughout the facility, including the Aluminum Turnings Storage Yard (SWMU 8). Untreated contact cooling water (approximately 17,000 gallons per day

Figure II-7 Flow Diagram of the Lead-Tin Solder Production Processes



Source: Reference 52

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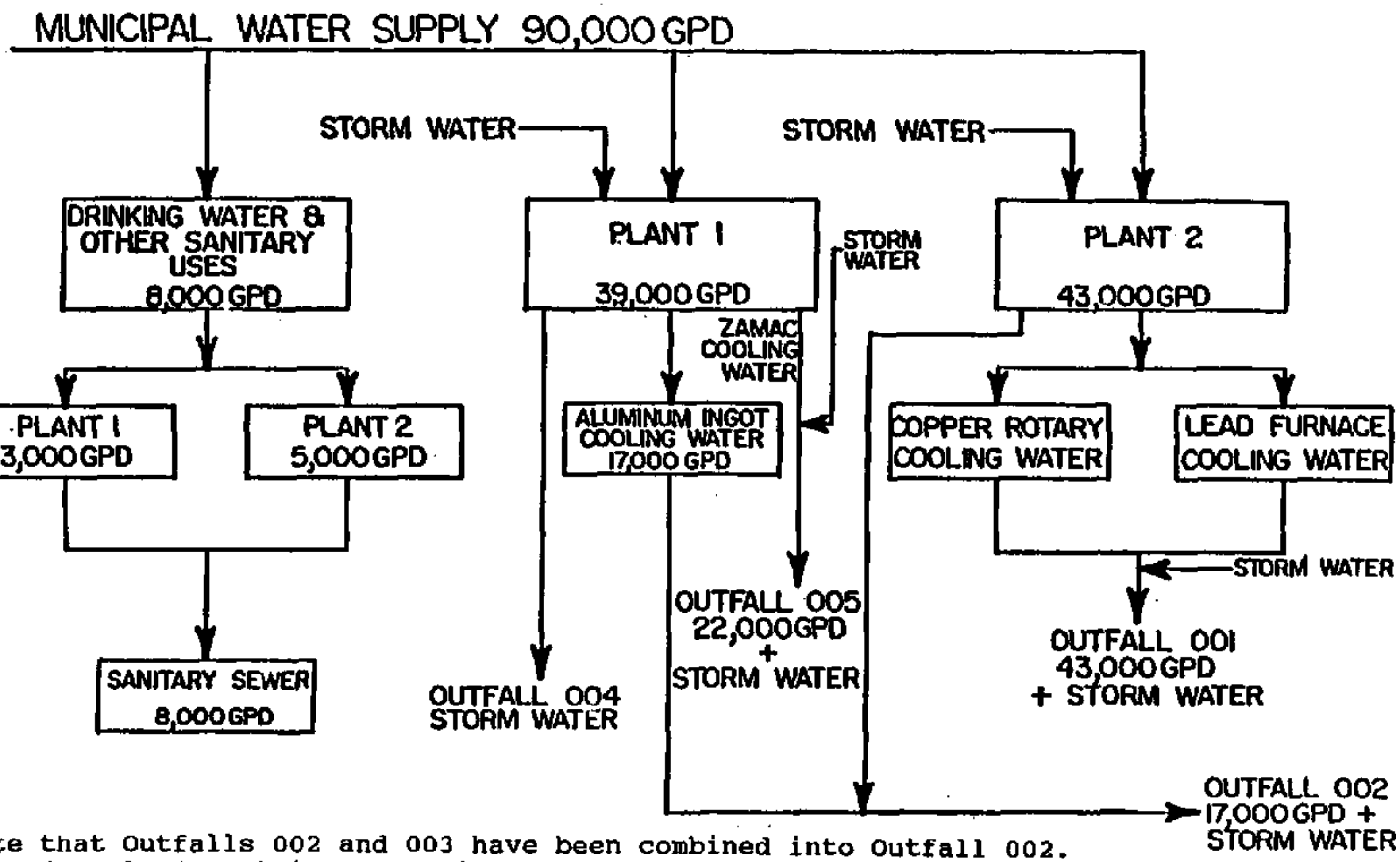
TABLE II-1
ESTIMATED VOLUMES & GENERATION PERIODS
OF WASTES PRODUCED AT THE
ROTH BROTHERS SMELTING CORPORATION

WASTE	ESTIMATED VOLUME	GENERATION PERIOD
Aluminum Processing Wastes		
Scrap Iron	Varies depending on content in processed scrap (sold)	1949 to Present
Baghouse Dust	60 tons per month	1977 to Present
Aluminum Dross	5 to 10 million pounds per year (sold)	1949 to Present
Aluminum Fines	300,000 pounds per year (sold)	1962 to Present
Waste Aluminum Fines	200,000 pounds per year	1962 to Present
Contact Cooling Water	17,000 gallons per day	1949 to Present
Zinc/Zamac Processing Wastes		
Scrap Iron	Varies depending on content in processed scrap (sold)	1955 to April 1991
Baghouse Dust	Up to 1 ton per month	1955 to Present
Contact Cooling Water	Up to 22,000 gallons per day	1955 to Present
Copper Processing Wastes		
Acid Fumes	*Processed by Baghouses* (SWMUs 23 & 24)	*Early 1960's to early 1980's*
Baghouse Dusts	These wastes were included in Aluminum dust volumes	1977 to April 1991
Noncontact Cooling Waters	43,000 gallons per day	Early 1960's to April 1991
Lead Solder Processing Wastes		
Lead Slag	700,000 pounds per year	1955 to July 1991
Baghouse Dust	500 to 600 tons per year	1973 to July 1991
Noncontact Cooling Water	43,000 gallons per day	1955 to July 1991
Treated Contact Cooling Water	Up to 4800 gallons per day, when operating	1988 to 1991
Other Wastes		
Waste Oil	200 gallons per month (burned)	1947 to Present
Ashes	Generated during burning of lime bags for Baghouses	1973 to Present
Laboratory Metal Wastes	Returned to process	1949 to Present

Figure II-8[1,2]



[1]Note that Outfalls 002 and 003 have been combined into Outfall 002.
[2]Secondary lead smelting operations ceased in July 1991 subsequent to the VSI.

MALCOLM PIRNIE

SCHEMATIC OF WATER FLOW
ROTH BROS. SMELTING CORPORATION

Source: Reference 16

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[GPD]) is discharged to the facility's SPDES Outfall 002 which flows into the South Branch of Ley Creek. A schematic of water flow from the Roth Brothers facility is shown in Figure II-8. (References 1, 9, 16, and 53).

Baghouse dust (an estimated 60 tons per month) is collected by the Dust Collector (SWMU 20) and Baghouse Nos. 1, 2, 3, and 5 (SWMUs 2, 3, 21, and 23); these emission control units service the Aluminum Furnaces (SWMU 4, Baghouse No. 1), the Chip Dryer (SWMU 1, Baghouse No. 2), the Aluminum Crusher (SWMU 19, Baghouse Nos. 3 and 5 and the Dust Collector), and the Zinc Pots (SWMU 15, Baghouse No. 2). Baghouse No. 2 was also tied to the Zamac Furnace (SWMU 14) during 1988. According to facility representatives, baghouse dust from Baghouse Nos. 1, 3, and 5 (SWMUs 2, 21, and 23) are hazardous for lead (D008) and cadmium (D006), but baghouse dust from Baghouse No. 2 (SWMU 3) is not hazardous based on TCLP analysis (Reference 53).

All baghouse dust is collected in polyethylene-lined cardboard boxes; nonhazardous baghouse dust (from Baghouse No. 2, SWMU 3) is disposed with other nonhazardous facility wastes in a municipal landfill, but hazardous dust is stored in the Aluminum Dust Storage Area (SWMU 11) and the Copper Dust Storage Area (SWMU 36). These materials are disposed in a hazardous waste landfill. According to facility representatives, all aluminum baghouse dust was probably disposed in a municipal landfill prior to RCRA regulations taking effect (Reference 53).

Zinc/Zamac Processing Wastes

The production of zinc and zamac generates scrap iron, nonhazardous baghouse dust, and contact cooling water. The scrap iron is accumulated primarily in the Northern Waste Storage Area (SWMU 29) and is periodically sold to a recycler. The baghouse dust (an estimated one ton per month or less) is collected by Baghouse No. 2 (SWMU 3) which services the Zinc Pot (SWMU 15) and the Chip Dryer (used in aluminum processing, SWMU 1); this unit also serviced the Zamac Furnace (SWMU 14) in 1988 (Reference 53).

Baghouse dust is collected in polyethylene-lined cardboard boxes which are disposed in a municipal landfill with other nonhazardous facility wastes. The contact cooling water (up to 22,000 GPD) is discharged to the facility's SPDES Outfall 005 (References 9, 16 and 53). A schematic of water flow from the Roth Brothers facility is provided in Figure II-8.

Copper Processing Wastes

Copper wire processing generated acid fumes, hazardous baghouse dusts containing cadmium and lead (D006 and D008), and non-contact cooling waters. Until Roth Brothers ceased incinerating copper wire insulated with PVC, the process also produced

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hydrochloric and hydrofluoric acid fumes. In the early 1970's, the facility attempted to treat these fumes using a venturi scrubber, but corrosion problems forced the facility to install an alkaline coated baghouse (the Former Baghouse, SWMU 24) in March 1977.

In the early 1980's, the facility ceased processing plastic insulated wire. However, Roth Brothers continued to incinerate paper insulated copper wire, and emissions from this process were tied to Baghouse No. 5 (SWMU 23) in 1988. This baghouse dust was stored in the Copper Dust Storage Area (SWMU 36) until it could be disposed as hazardous waste (D006, D008) (References 1, 2, 11, 13, 45, 47, 52 and 53).

An estimated 43,000 GPD of non-contact cooling water from the Copper Furnace (SWMU 27) and the Lead Furnace (SWMU 16) were discharged to the facility's SPDES Outfall 001. The facility ceased all copper wire processing in April 1991 (References 52 and 53).

Lead-Tin Solder Processing Wastes

The production of lead-tin solder products in Plant No. 2 generated lead slag (F006 during the period in which electroplating wastewater treatment sludges were processed), baghouse dust (K069), non-contact cooling water, and treated contact cooling water. Incoming lead dross was stored in the facility's Lead Dross Shed (SWMU 42). The lead slag (an estimated 700,000 pounds per year) which was produced during processing of this dross was returned to the Lead Furnaces (SWMUs 16 and 18) until the lead content was below the Extraction Procedure or Toxicity Characteristic (TC) regulatory levels (typically the slag contained less than 0.5 ppm of lead). This waste was then disposed in the DeWitt and Orleans County Landfills. Lead slag was stored in the Copper Dust Storage Area (SWMU 36), and at the time of the VSI, covered piles of lead slag were also being stored directly on the ground in the Northern Waste Storage Area (SWMU 29) (References 1 and 53).

From 1973 until lead operations ceased in July 1991, the facility produced 500 to 600 tons per year of lead baghouse dusts (K069) from Baghouse No. 4 (SWMU 22) and the Lead Particle Settling Unit (SWMU 40). This material was stored in the Lead Dust Storage Area (SWMU 35) until it could be sold to a recycler in the United Kingdom. This recycler went out of business in April 1991, and at the time of the VSI, the facility was seeking an alternative method of disposal for this waste (References 52 and 53).

An estimated 43,000 GPD of non-contact cooling water from the Lead Furnaces (SWMUs 16 and 18) and the Copper Furnace (SWMU 27) were discharged to the facility's SPDES Outfall 001 until these units ceased operation. A schematic of water flow from the Roth

Brothers facility is provided in Figure II-8. From 1988 to 1991, the facility also operated an Ion Exchange Unit (SWMU 34) to treat contact cooling water from lead casting operations prior to discharge to the city sewer system (References 52 and 53).

Other Wastes

Roth Brothers generates an estimated 200 gallons per month of waste oil during servicing of facility vehicles. In the 1980's, the facility maintained a contract with Safety-Kleen to dispose of this oil as well as waste generated in the facility's three Safety-Kleen Degreasers (SWMU 38). Although the facility continues to use Safety-Kleen to service its Degreasers, the facility has burned its waste oil in a Waste Oil Burner (SWMU 31) since 1989. This Burner produces heat for the maintenance area during the winter months. The facility's four Waste Oil Tanks (SWMUs 30A to 30D) have sufficient capacities to store waste oils generated during the summer months until they are needed as fuel. Facility representatives did not know how these waste oils were disposed prior to 1980 (References 52 and 53).

The facility also operates four Oil/Water Separators (SWMUs 5, 6, 28, and 32) to partially treat oily washwaters from the Steam Cleaning Room (SWMU 32) and oily runoff from the Diesel Pumping Station (SWMU 33), the Aluminum Turnings Storage Yard (SWMU 8), the Sweat Furnace (SWMU 26), and the Copper Wire Incinerator (SWMU 25). Aluminum turnings stored in this storage area typically are coated with lubricating oils used in the machining processes which generated them. However, facility representatives stated that the amount of oil on incoming materials has decreased in recent years since more of their suppliers are using centrifuges or other devices to recover lubricating oils prior to selling the scrap metals (Reference 53).

Oil and sludges collected in the Inground Oil/Water Separator (SWMU 5), the Sweat Furnace Oil/Water Separator (SWMU 28), and the oil/water separator in the Steam Cleaning Room (SWMU 32) are periodically taken to the Hydraulic Oil/Water Separator (SWMU 6) for further processing. Concentrated oils/sludges from this unit are transferred to the Waste Oil Tanks (SWMU 30) so that these wastes can also be burned in the Waste Oil Burner (SWMU 31).

The Suspected Oil Seep Area (SWMU 43) was identified from documents supplied by the facility subsequent to the VSI. The suspected Oil Seep Area is located in the southwest corner of Plant No. 2 where oil had reportedly been observed seeping into a ditch. No further oil seeps have reportedly been identified since the ditch was converted to an underground drainage pipe. The source of the oil has not been determined (Reference 56).

The facility stores miscellaneous wastes (e.g., used lead pots, used zinc pots, construction debris, refractory bricks, etc.) in the partially paved Northern Waste Storage Area (SWMU 29). Facility representatives could not identify many of the wastes shown in Photographs 29.1 to 29.7 in the Photographic Log (Attachment B). Roth Brothers has initiated an investigation of this area to obtain soil borings and groundwater monitoring data. Results from the draft report are presented in Section II-E, Release History (References 53, 55, and 56).

At the time of the VSI, the facility was also accumulating ashes in the Lime Ash Bag Storage Area (AOC B) from the burning of bags which contained lime used in the Baghouses (SWMUs 2, 3, 21, 22, and 23). These bags (which have not come into contact with any baghouse dusts) are burned in metal hoppers in the vicinity of Baghouse No. 4 (SWMU 22). The ashes are disposed in a sanitary landfill (Reference 53).

The facility accumulates metal scraps in the Laboratory Satellite Accumulation Area (SWMU 37) during quality assurance testing. These wastes are returned to the smelting operations without additional processing (Reference 53).

The Outfall 003 Waste Pile (SWMU 41) was identified during the VSI. Facility representatives appeared to be previously unaware of this unit and could not identify its contents or determine when this material was disposed (Reference 53).

II-D. Regulatory History

On September 5, 1984, Roth Brothers notified NYSDEC that they had decided to formally close their hazardous waste storage facility and withdraw their Part A permit application (Reference 8). On April 30, 1985, the facility submitted a closure plan for the three hazardous waste storage areas (SWMUs 11, 35, 36) (Reference 7).

In October 1985, Roth Brothers requested the withdrawal of their reclassification request, citing that they were unable to meet state exemptions due to volume limitations on their 90-day storage and that they were no longer planning to close their hazardous waste storage areas. In addition Roth Brothers stated that they intended to apply for both state and federal hazardous waste permits (Reference 32).

Roth Brothers submitted a Part 373 Permit Application (the New York State equivalent to a RCRA Part B Application) to NYSDEC on April 16, 1986. The application was determined to be incomplete and a Notice of Incomplete Application was sent to the facility (Reference 30). Roth Brothers provided additional information on October 22 and November 24, 1986. On March 30, 1987, Roth Brothers was granted a Part 373 Permit by NYSDEC to operate a hazardous waste storage facility. Three container storage areas, the Aluminum Dust Storage Area (SWMU 11), the Lead Dust Storage Area (SWMU 35), and the Copper Dust Storage Area (SWMU 36), with a total capacity of 290 containers were permitted. No HSWA permit was issued at that time (References 12 and 24).

The facility received a State Pollutant Discharge Elimination System (SPDES) permit for process, cooling water and stormwater flow effective on February 1, 1984. The permit was modified on May 5, 1987, eliminating Outfall 003 and adjusting the PCB effluent level for monthly sampling at Outfalls 001 and 004. The permit was further modified on May 10, 1988 to increase the sulfite limit to 3.00 mg/l for the monthly sampling (Reference 26). On June 29, 1989 NYSDEC made a tentative decision to approve the renewal of Roth Brothers' existing SPDES Permit No. 0110311 to discharge approximately 89,000 GPD of non-contact cooling water and stormwater runoff to the South Branch of Ley Creek from four separate outfalls (Reference 21). SPDES permit violations are discussed in Section II-E, Release History.

Roth Brothers holds NYSDEC Certificates to Operate Air Contamination Sources for 12 emission points. Table II-2 contains a listing of these permitted units (Reference 15), and Figures II-9 and II-10 show the locations of these emission points in Plant Nos. 1 and 2, respectively. As discussed in Section II-E, Release History, the facility has been cited for air emission violations on numerous occasions over the past twenty years.

II-E. Release History

Roth Brothers maintains a SPDES permit and air permits to regulate its releases to air and surface waters. The details of these permits are discussed above in Section II-D Regulatory History; violations of these permits are discussed below. According to facility representatives, no major spills or other releases have occurred at the facility. However, soil and groundwater monitoring data collected at the facility have revealed substantial subsurface contamination (References 53 and 55).

SPDES Permit Violations

PCBs were detected in the Outfall 004 Drainage Area (SWMU 48) in 1984, 1986, 1987, and 1988. This outfall receives drainage from roof drains, the Northeast Drainage Ditch (SWMU 13), and the Aluminum Turnings Storage Yard (SWMU 8). PCBs were also detected in the Outfalls 001 and 002 Drainage Areas (SWMUs 45 and 46) in 1988 and 1990 (References 5, 24, 29 and 56). NYSDEC hypothesized that the PCBs may be due to drainage of PCB contaminated oils from aluminum turnings or to the infiltration of groundwater into the Roth Brothers' sewer system (References 5 and 42). Facility representatives were unable to obtain sufficient quantities of

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Table II-2
Permitted Air Emission Control Devices

Emission Point	Permit Issue Date	Control Units	Associated Process Units
00008	November 13, 1989		Zamac Furnace (SWMU 14)
00012	November 13, 1989		Lead Pots (SWMU 17)
00013	November 13, 1989	Baghouse No. 4 (SWMU 22)	Lead Furnace (SWMU 16) (exhaust)
00014	November 13, 1989	Lead Particle Settling Unit (SWMU 40)	Lead Tilt Furnace (SWMU 18)
00015	November 13, 1989		Aluminum Furnace (SWMU 4) (hood)
00016	November 13, 1989	Baghouse No. 1 (SWMU 2)	Aluminum Furnaces (SWMU 4) (exhaust hoods)
00017	November 13, 1989	Dust Collector (SWMU 20) Baghouse No. 3 (SWMU 21) Afterburner (Copper Furnace) Lead Particle Settling Unit (SWMU 40)	Aluminum Crusher (SWMU 19) Lead Furnace (SWMU 16) (hoods) Copper Furnace (SWMU 27)
00018	November 13, 1989	Afterburner Baghouse No. 2 (SWMU 3)	Chip Dryer (SWMU 1)
00019	November 13, 1989	Baghouse No. 5 (SWMU 23) Settling Tower	Copper Wire Incinerator (SWMU 25) Sweat Furnace (SWMU 26)
00020	November 13, 1989	Multistage Cyclone Dryer	Aluminum Crusher (SWMU 19)
00021	November 13, 1989	Baghouse No. 1 (SWMU 2)	Aluminum Furnace (SWMU 4)
00022	November 13, 1989	Baghouse No. 2 (SWMU 3)	Zinc Pot (SWMU 15)

(Source: Reference 51)

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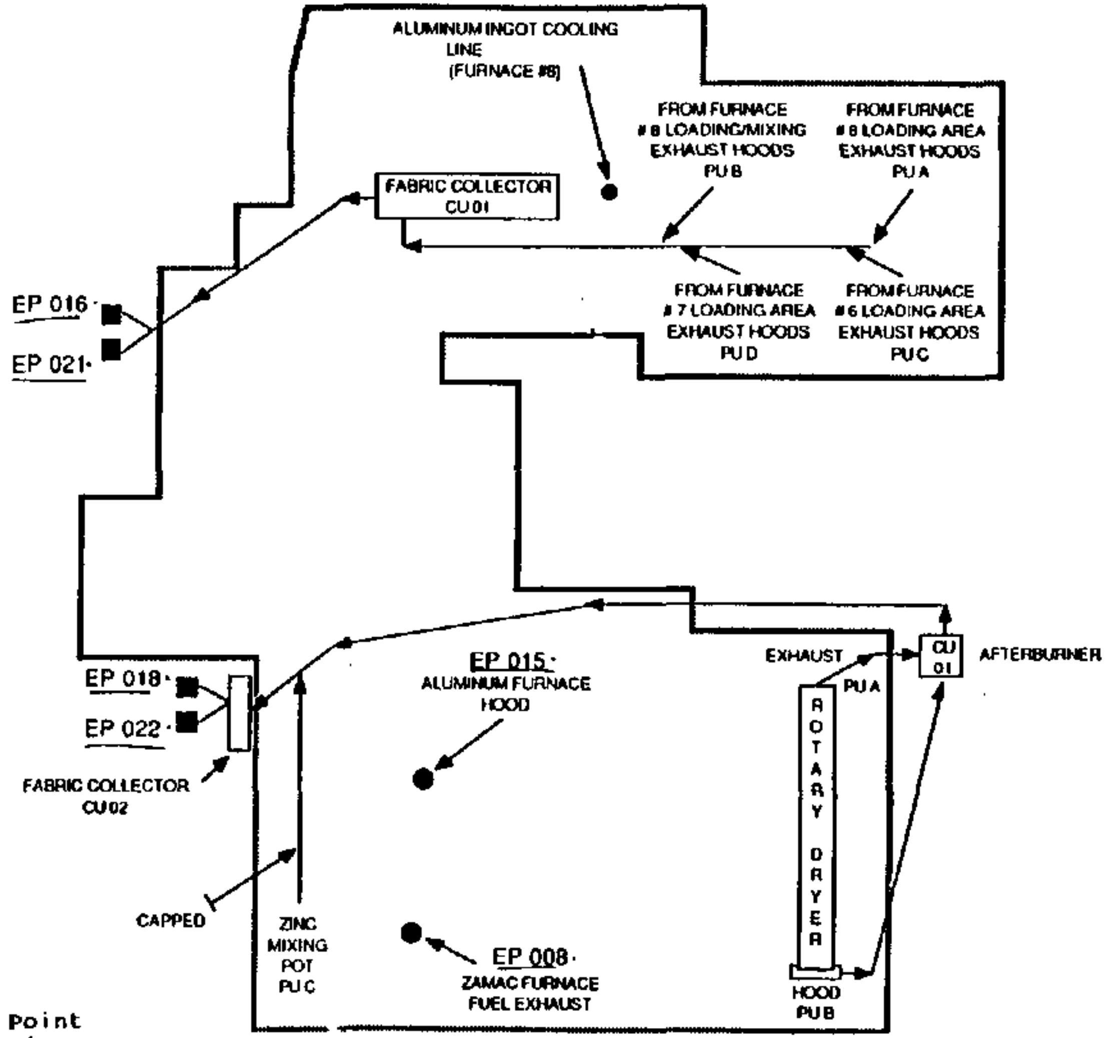
Figure II-9

Location of Emission Points
at Roth Brothers Smelting Corporation
Plant No. 1

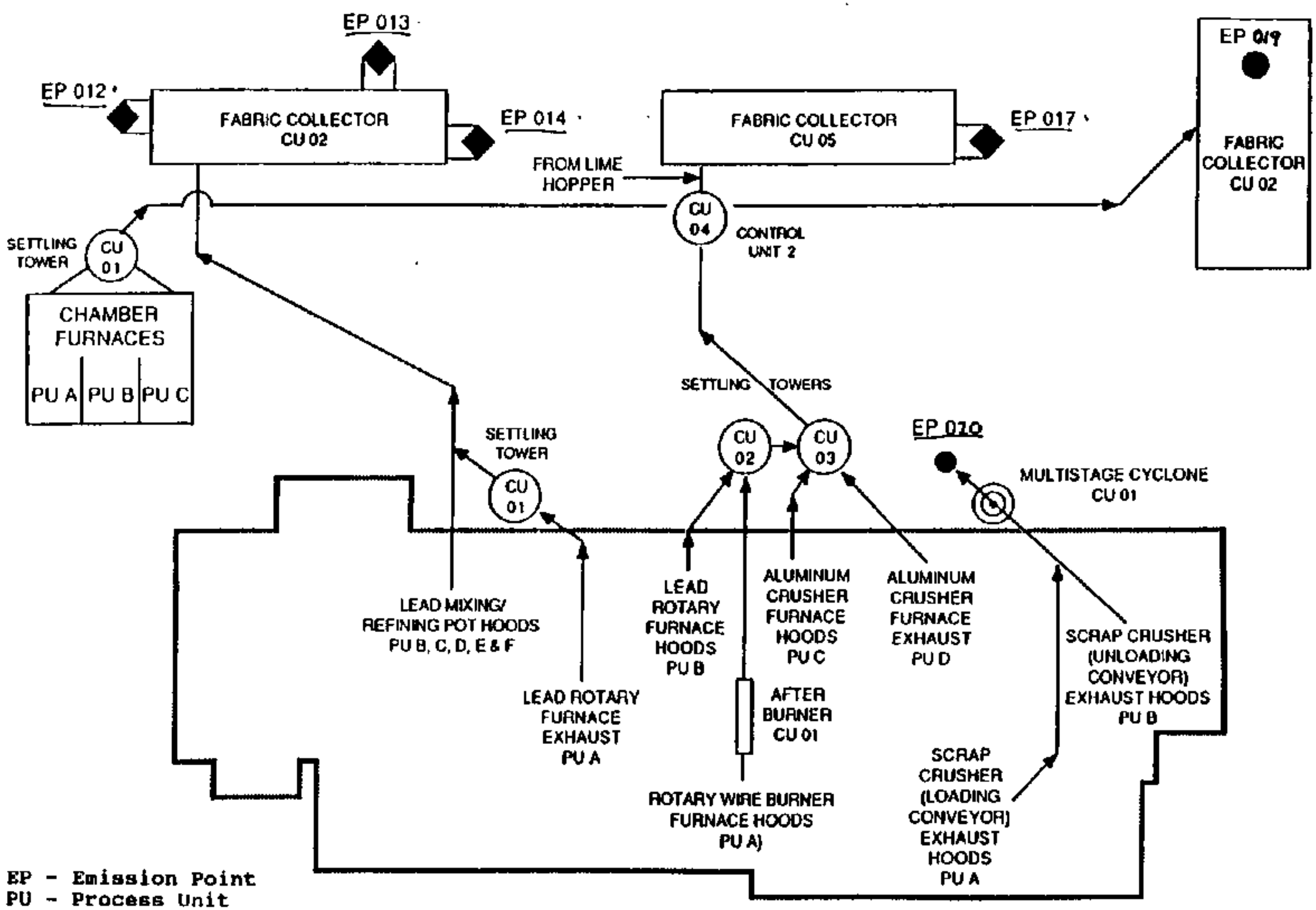


EP - Emission Point
PU - Process Unit
CU - Control Unit

Source: Reference 51

Figure II-10

Location of Emission Points
at Roth Brothers Smelting Corporation
Plant No. 2



EP - Emission Point
PU - Process Unit
CU - Control Unit

Source: Reference 51

FOIL204789

the oily residues from the aluminum turnings to run a PCB analysis; however, the facility has reportedly not detected a PCB violation of their SPDES permit since the repair of a storm sewer manhole in 1988 (References 5, 16, 53, and 56). The facility contends that these PCBs could potentially also have been brought onsite in electrical cables purchased for metal recovery.

The PCBs could also have been released by PCB transformers and capacitors in the Former Substation, although one soil sample taken from this unit contained 28,800 ppm oil and grease but only 0.588 ppm PCBs.

In 1986, Roth Brothers installed an Inground Oil/Water Separator (SWMU 5) in the Aluminum Turnings Storage Yard (SWMU 8) to collect oily runoff from incoming aluminum turnings. Prior to 1986, this oily runoff was allowed to drain off the property, primarily via the Northeast Drainage Ditch (SWMU 13). At the time of the VSI, standing water with an oily sheen was observed in this drainage ditch. This ditch also receives runoff from the adjacent Oberdorfer Foundry fill area (Reference 53).

An inspection by NYSDEC on November 15, 1984 noted the appearance of contaminated water and land surface surrounding Outfall 001, 003, and 004 (SWMUs 45, 47, and 48). At the time of the inspection, a black oily waste from the Outfall 001 Drainage Area (SWMU 45) was reportedly being "wetland treated" and absorbent pads were being used to contain the oily waste in a manhole at Outfall 003 (References 37 and 38).

During the VSI, standing water with an oily sheen was noted in the vicinity of the Outfall 001 and 004 Drainage Areas (SWMUs 45 and 48), as well as in the Stormwater Drainage System (SWMU 39). This drainage area receives runoff from the Diesel Pumping Station (SWMU 33) and the Steam Cleaning Room (SWMU 32). At the time of the VSI, heavy staining was noted in the maintenance yard in the vicinity of the facility's Diesel Pumping Station (SWMU 33) (Reference 53).

The Northeast Drainage Ditch (SWMU 13) and the Stormwater Drainage System (SWMU 39) contained debris and heavy staining at the time of the VSI. There is also documented PCB contamination in the vicinity of Outfall Drainage Areas 001, 002, and 004 (SWMUs 45, 46, and 48).

Preliminary facility investigations of the Stormwater Drainage System (SWMU 39) have detected high lead and PCB levels in sediments which have accumulated in this unit. This system discharges to the facility's SPDES outfalls (Reference 56).

The Former Substation (SWMU 44) is located near the parking area for the facility, immediately south of the existing substation. Although no TC regulatory levels for lead, chromium, or cadmium

FOIL204790

were exceeded in this sample, oil and grease were detected at 28,800 ppm (Reference 56).

The facility routinely discharges accumulated rainfall to the surrounding soil from the Secondary Containment for Fuel Tanks (SWMU 10) which is located along the southern property boundary with Hoffman Air and Filtration System Company (see Section III-A for surrounding land use information). Stormwater which accumulated during morning rainfall on the second day of the VSI had an oily sheen. At the time of the VSI, the interior walls and base of this unit were also heavily stained.

Air Permit Violations

Prior to the early 1970's, Roth Brothers was reportedly considered by NYSDEC as "one of the worst air polluters in the region" because of the large amounts of black smoke and flames which regularly emanated from the facility (Reference 11). On April 30, 1971 the State of New York Department of Health Division of Air Resources requested that a hearing be held to discuss the failure of Roth Brothers to submit an acceptable abatement schedule for the Chip Dryer (SWMU 1), the Copper Wire Incinerator (SWMU 25), and the Aluminum Furnaces (SWMU 4) (Reference 49).

On May 27, 1971, a petition to stop air pollution caused by Roth Brothers was sent to the Supervisor of the Town of Dewitt, by the Citizen's Committee for Clean Air. The petition called for the installation of air pollution equipment at Roth Brothers (Reference 48).

A hearing was ordered for November 23, 1971 citing the following violations against Roth Brothers: 1) emissions from the Chip Dryer (SWMU 1), Aluminum Crusher (SWMU 19), Copper Furnace (SWMU 27) and Copper Wire Incinerator (SWMU 25) were in excess of allowable limits; and 2) Roth Brothers failed to provide required data concerning emissions. The facility waived a hearing and entered into a Consent Order with NYSDEC on March 14, 1972. The Consent Order called for Roth Brothers to modify or repair its Chip Dryer (SWMU 1), Aluminum Crusher (SWMU 19), and Copper Wire Incinerator (SWMU 25) to achieve air contaminant emission rates in compliance with Parts 186, 187 and 501 of the New York State Air Pollution Control Rules (References 3, 11, and 47). By 1974, the NYSDEC characterized the facility as a "fairly well controlled plant" with respect to air emissions (Reference 11).

From August 13, 1985 until September 24, 1987, Roth Brothers was cited five times for having emission of 40 to 50% opacity stemming from Plant No. 1 (References 28, 31, 33, and 34).

Soil and Groundwater Contamination

In 1990 and 1991, Roth Brothers conducted soil and groundwater investigations of both Plant Nos. 1 and 2 (References 55 and 56). The results of these investigations are summarized below:

Plant No. 1 Soil Investigations

The investigation of Plant No. 1 was primarily designed to determine if discarded foundry sands in the adjacent Oberdorfer fill area (along the Northeast Drainage Ditch [SWMU 13]) had impacted groundwater in the vicinity of Plant No. 1. No chemical analytical data was collected from these samples.

Plant No. 2 Soil Investigations

The two phase investigation of Plant No. 2 was designed to address the following areas of concern:

- an area receiving fill material from 1976 to 1979
- the maintenance yard
- SPDES Outfalls 001 and 002 ditches
- a former transformer location
- the southwest corner of Plant No. 2

Six previous soil samples from the area had indicated the following results (Reference 56):

- the Aluminum Turnings Storage Yard (SWMU 8) was sampled in two locations (J8265, J8266) at the northwest corner of Plant No. 2; samples analyzed for semi-volatiles, total metals and TCLP metals identified 400 ppm and 520 ppm benzo(a)anthracene (estimated); 12,000 ppm and 25,000 ppm bis(2-ethylhexyl phthalate); and 740 ppm benzo(a)pyrene (estimated).

- the Northern Waste Storage Area (SWMU 29) was sampled in two locations (J8267, J8268); samples analyzed for metals (total and TCLP) were not found to be hazardous by TCLP.

- the drainage ditch from Outfall 001 Drainage Area (SWMU 45) was sampled in two locations (J8269, J8270); samples analyzed for metals (total and TCLP), PCBs, and oil and grease identified the following: 7.2 ppm lead (TCLP), 6.9 ppm Aroclor 1016/1242, and 1.6 ppm Aroclor 1254. Oil and grease were not detected above detection limits in a water sample collected at the outfall.

- the drainage ditch from Outfall 002 Drainage Area (SWMU 46) was sampled in three locations (J8272, J8273, J8274); samples analyzed for semi-volatiles, metals (total and TCLP), PCBs, and oil and grease identified the following: 17,000 ppm benzo(a)anthracene, 4.0 ppm Aroclor 1016/1242, and 100,000 ppm oil and grease. Metals were not detected above TCLP regulatory levels.

- the Lead Dross Shed (SWMU 42) was sampled in one location (J8271) which identified 12 ppm lead by TCLP analysis.

The locations of these soil samples are provided in Figure II-11.

Two soil borings (B7 and B8) taken in November 1989 in the vicinity of the Aluminum Turnings Storage Yard (SWMU 8) contained kerosene (< 350 mg/kg maximum), fuel oil (< 150 mg/kg maximum), lubricating oil (reported only as "detected"), total PCBs (11 mg/kg maximum), aluminum (7.2 mg/L maximum), barium (1.0 mg/L maximum), cadmium (0.44 mg/L maximum), lead (0.5 mg/L maximum), and zinc (22 mg/L maximum). The locations of these soil borings and data from these analyses are provided in Attachment E (Reference 51).

Three soil borings (B9, B10, and B11) taken in 1989 in the vicinity of the Former USTs (AOC A) contained less than 10 mg/kg kerosene and fuel oil and did not contain detectable levels of gasoline and lubricating oils. Total PCBs were detected at less than 2 mg/kg. The locations of these soil borings and the data from these analyses are provided in Attachment E (Reference 51).

During the course of the Phase I investigation, soil samples were collected and analyzed for lead, chromium, and cadmium (total metals and TCLP), PCBs, and oil and grease. Note that the following EPA and NYSDEC standards for these constituents have been established (References 55 and 56):

- Lead - An EPA soil action level for lead has not been established, but an action level of 500 ppm has been reported at cleanup sites under NYSDEC review. The TC regulatory level for lead is 5.0 mg/L.

- Chromium - The EPA health-based criteria for systemic toxicants in soils is 400 ppm. The TC regulatory level for chromium is 5.0 mg/L.

- Cadmium - there is no health-based criteria for cadmium in soils. The TC regulatory level for cadmium is 1.0 mg/L.

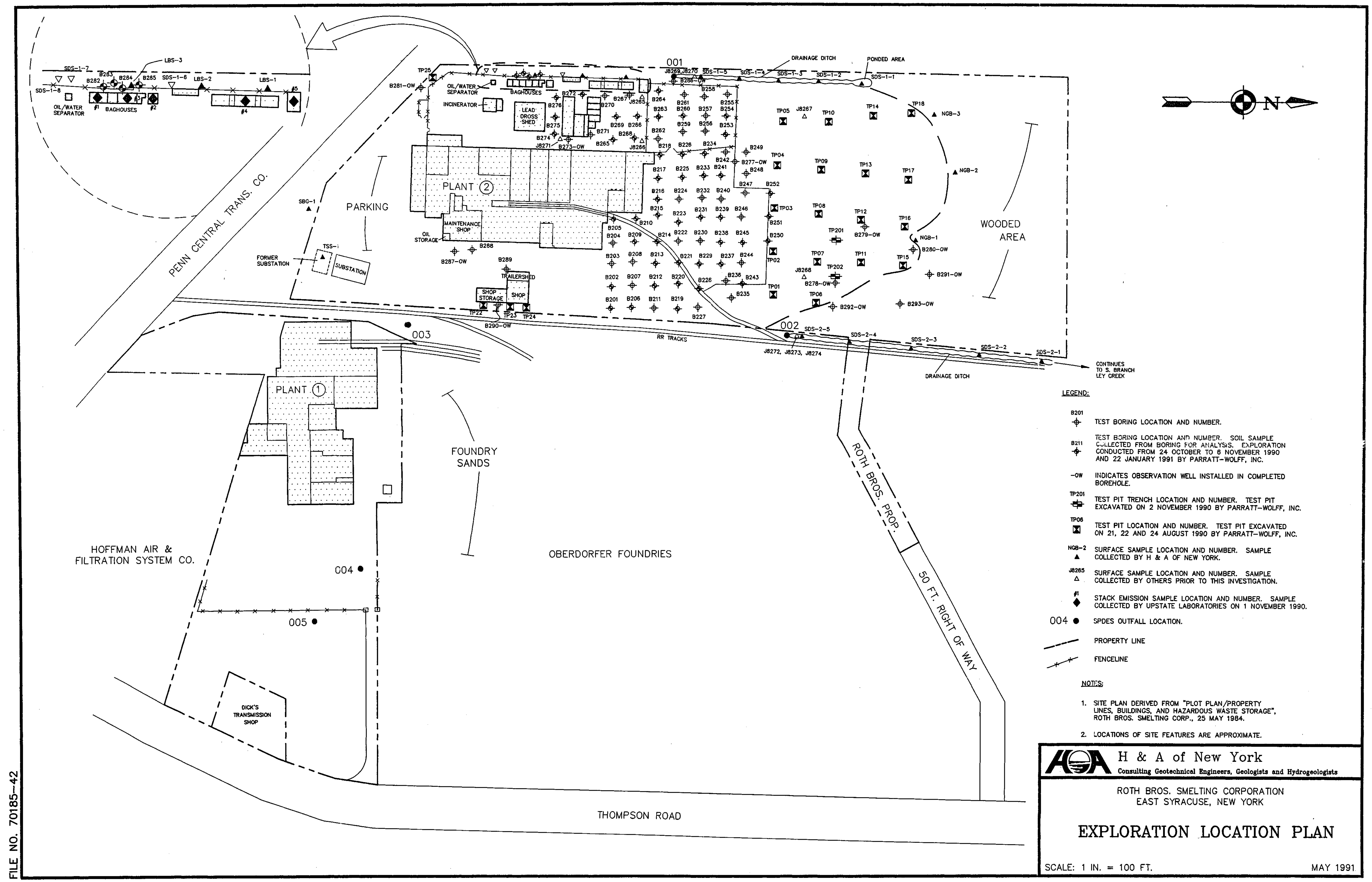


Figure II-11

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- PCBs - EPA has established a 25 ppm cleanup criteria for soils in industrial areas.

A brief summary of these soil sampling results are provided by area below (Reference 56):

- Five samples were taken from sediments in Outfall 001 Drainage Area (SWMU 45) at intervals of 100 feet; oily residues were noted in the sediment samples and an oily sheen formed on the water when sediments in this unit were disturbed. Total lead concentrations ranged from 214 ppm to 5240 ppm; these analyses detected 19.7 ppm to 157 ppm total chromium, and 5.19 ppm to 68.6 ppm total cadmium. Oil and grease were identified in the range of 3975 ppm to 22,600 ppm. Lead in excess of TC regulatory levels was detected in two locations.

- Five samples were taken from sediments in Outfall 002 Drainage Area (SWMU 46); samples consisted of dark brown oil-stained organic matter with a petroleum odor, and an oily sheen formed on the water when sediments in the unit were disturbed. Total lead concentrations ranged from 384 ppm to 2060 ppm; these analyses detected 11.4 ppm to 22.6 ppm total chromium, and 7.9 ppm to 15.[illegible] ppm total cadmium. Oil and grease were identified in the range of 641 ppm to 5750 ppm, and PCBs were detected up to 1.330 ppm. No samples contained lead, cadmium, or chromium in excess of TC regulatory levels.

- Four soil samples were taken west of the property fence in the vicinity of Baghouse No. 4 (the Lead Baghouse, SWMU 22). Total lead concentrations ranged from 287 ppm to 4440 ppm; these analyses detected 9.63 ppm to 18.9 ppm total chromium, and 5.7 ppm to 2570 ppm total cadmium. Oil and grease were identified in the range of 510 ppm to 2230 ppm, and PCBs were detected below the 25 ppm cleanup threshold. One sample exceeded the TC regulatory level for lead; all other samples were below regulatory levels for lead, chromium, and cadmium.

- One soil sample was taken from the location of the Former Substation (SWMU 44). No TC regulatory levels for lead, cadmium, or chromium were exceeded in this sample, but oil and grease was detected at 28,800 ppm. PCBs levels were identified in a concentration of 0.588 ppm.

- Three soil samples and one duplicate were taken from test pits in the maintenance yard, which contains the

Former USTs (AOC A), the Diesel Pumping Station (SWMU 33), and the Steam Cleaning Room (SWMU 32). Lead was detected in concentrations ranging from 1160 ppm to 8460 ppm; total chromium ranged from 84 ppm to 108 ppm, and total cadmium was detected in concentrations ranging from 14.6 ppm to 63.2 ppm. Oil and grease levels in these samples ranged from 3075 ppm to 22,600 ppm. None of these samples exceeded TC regulatory levels for the above metals.

- Of the 18 test pits made in the unpaved portion of the Northern Waste Storage Area (SWMU 29), 12 were randomly selected for laboratory analyses. Nine of the 12 samples contained PCBs, but only one sample contained PCBs in excess of the 25 ppm EPA cleanup criterion. Four of these samples contained lead in excess of 500 ppm, with lead levels ranging from 2980 ppm to 25,100 ppm. Total chromium analyses ranged from 13.2 ppm to 282.0 ppm, and cadmium was detected in the range of 1.48 ppm to 53.8 ppm. All samples were below TC regulatory levels for cadmium and chromium, but two of the samples were found to be hazardous for lead.

- One sample was collected from the Suspected Oil Seep Area (SWMU 43). The following constituents were identified in this sample: 72.7 ppm total lead, 13.4 ppm total chromium, and 1.36 ppm total cadmium. Oil and grease was detected at 166 ppm. Analyses for PCBs and TC metals (lead, cadmium, and chromium) did not exceed regulatory levels.

- Analyses of one background sample (taken from the south end of Plant No. 2) and three native soil samples (taken from the north end of Plant No. 2) identified up to 270 ppm oil and grease, but no PCBs or TC metals were detected.

The results of the preliminary investigation indicated that further investigation was warranted to determine if:

- free oil product was present in the maintenance yard.

- the source(s), apparent extent, and impact on groundwater of elevated levels of lead and PCBs in Plant No. 2 soils.

Consequently, a Phase II investigation was instigated to further investigate the maintenance yard, the Northern Waste Storage Area (SWMU 29), and the surrounding soils and associated drainage pathways for Baghouse No. 4 (SWMU 22) and the Lead Dross Shed (SWMU 42). These investigations were conducted between October

1990 and January 1991 (Reference 56). The results of the soil investigations are provided below. The locations of these borings are identified in Figure II-12:

- Four test borings were made in the maintenance yard which contains the Former USTs (AOC A), the Diesel Pumping Station (SWMU 33), and the Steam Cleaning Room (SWMU 32); black staining was noted in two of the four borings, and two of the borings were converted to groundwater monitoring wells.

- Fifty-three shallow borings were made in the paved portions of the Northern Waste Storage Area (SWMU 29) because analysis of aerial photographs had indicated that this area had also possibly received fill materials in the past. Fill materials were encountered to a depth of 0 to 6.5 feet, with an average fill thickness of 3.1 feet. The composition of this fill material varied, including silt, sand and gravel, cinders, wood fragments, glass, and ash. Fifteen out of 37 samples from these test borings exceeded 500 ppm lead, and 8 of the 37 samples exceeded the TC regulatory level for lead. PCBs were detected in 35 out of 37 samples, with three samples exceeding the 25 ppm cleanup level for industrial soils; the highest level of PCBs detected was 82.7 ppm.

  An additional six test borings and two trenches were made in the unpaved area of the Northern Waste Storage Area (SWMU 29). Three of these borings were made in areas where high PCB and TC lead values were encountered in the Phase I investigation, and three were made in native soil areas at the north end of this unit. These latter three borings were converted to groundwater monitoring wells to evaluate water quality north of this unit. Lead was detected in these soil borings in excess of the TC regulatory level, and PCBs were identified in the range of 27.7 ppm to 164 ppm.

- Twenty-four shallow test borings were also made in the vicinity of the Lead Dross Shed (SWMU 42), Baghouse No. 4 (SWMU 22), the Lead Dust Storage Area (SWMU 35) and the Copper Dust Storage Area (SWMU 36) because aerial photographic analysis had determined that this area may also have received fill materials. The average fill thickness was 2.1 feet in these areas. Six out of 16 samples had total lead concentrations in excess of 500 ppm (in concentrations up to 23,740 ppm), and 16 out of 18 samples contained PCBs (in concentrations up to 40.1 ppm). Only one of these samples exceeded the 25 ppm cleanup level for PCBs in industrial soils.

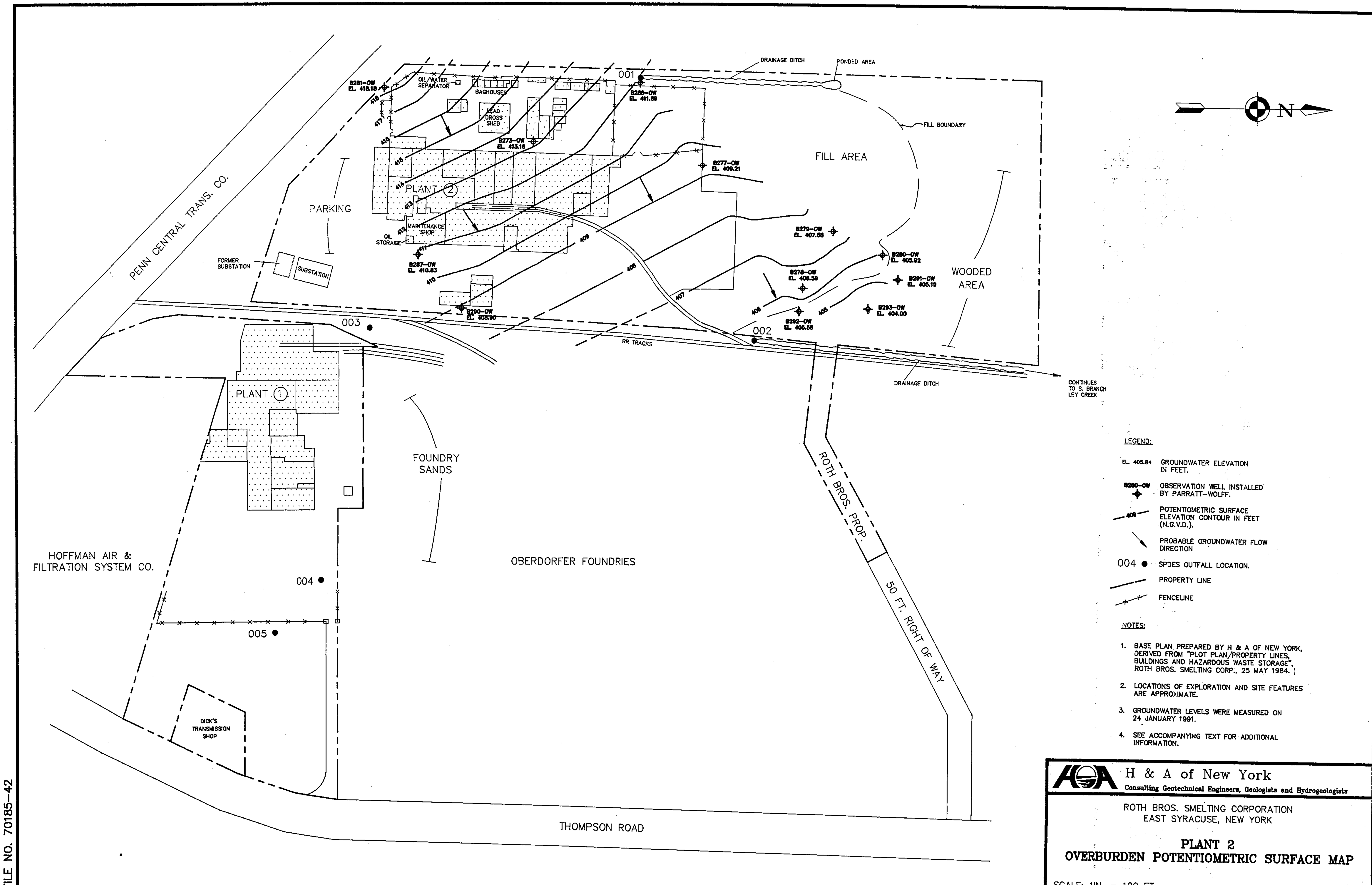

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Figure II-12

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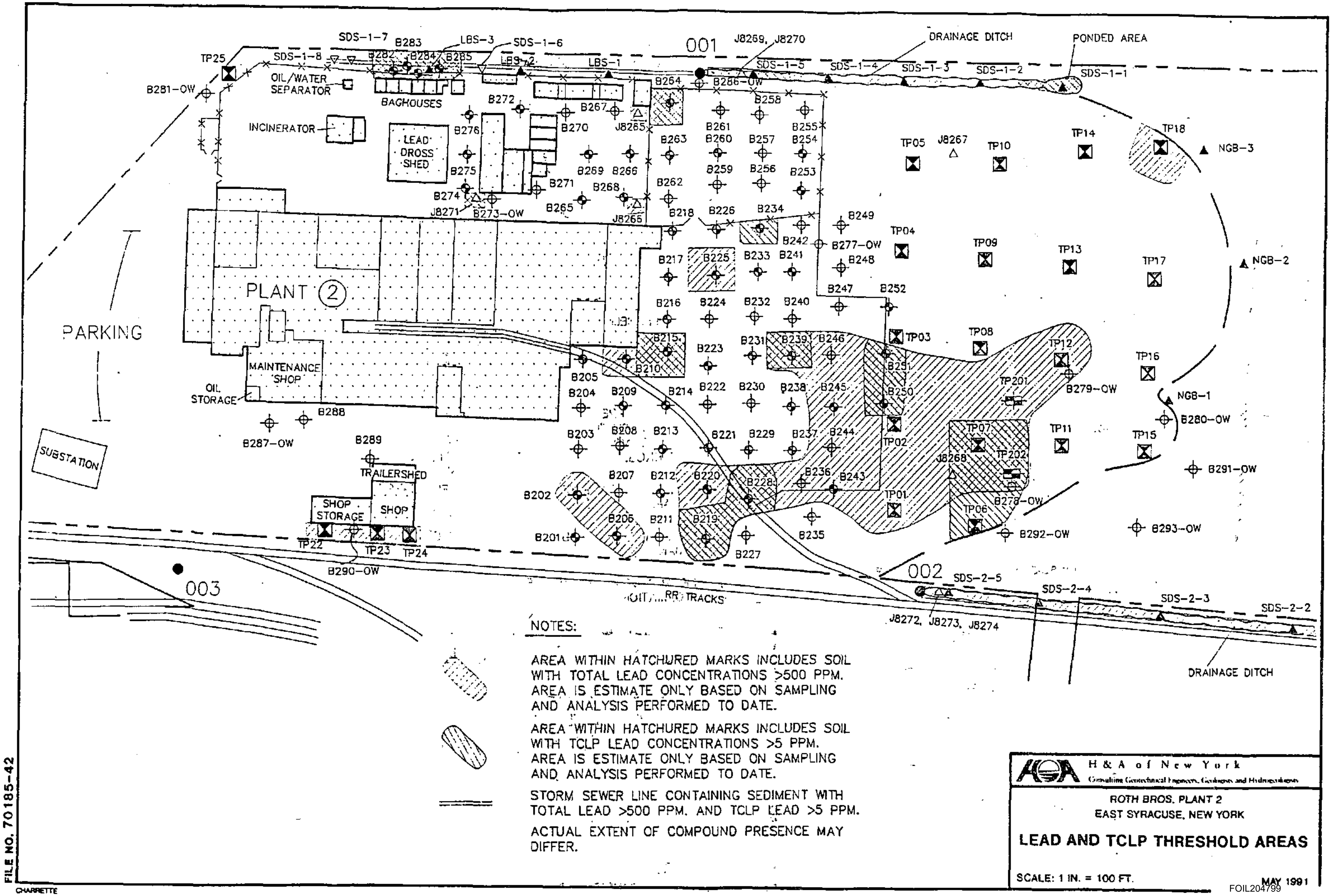

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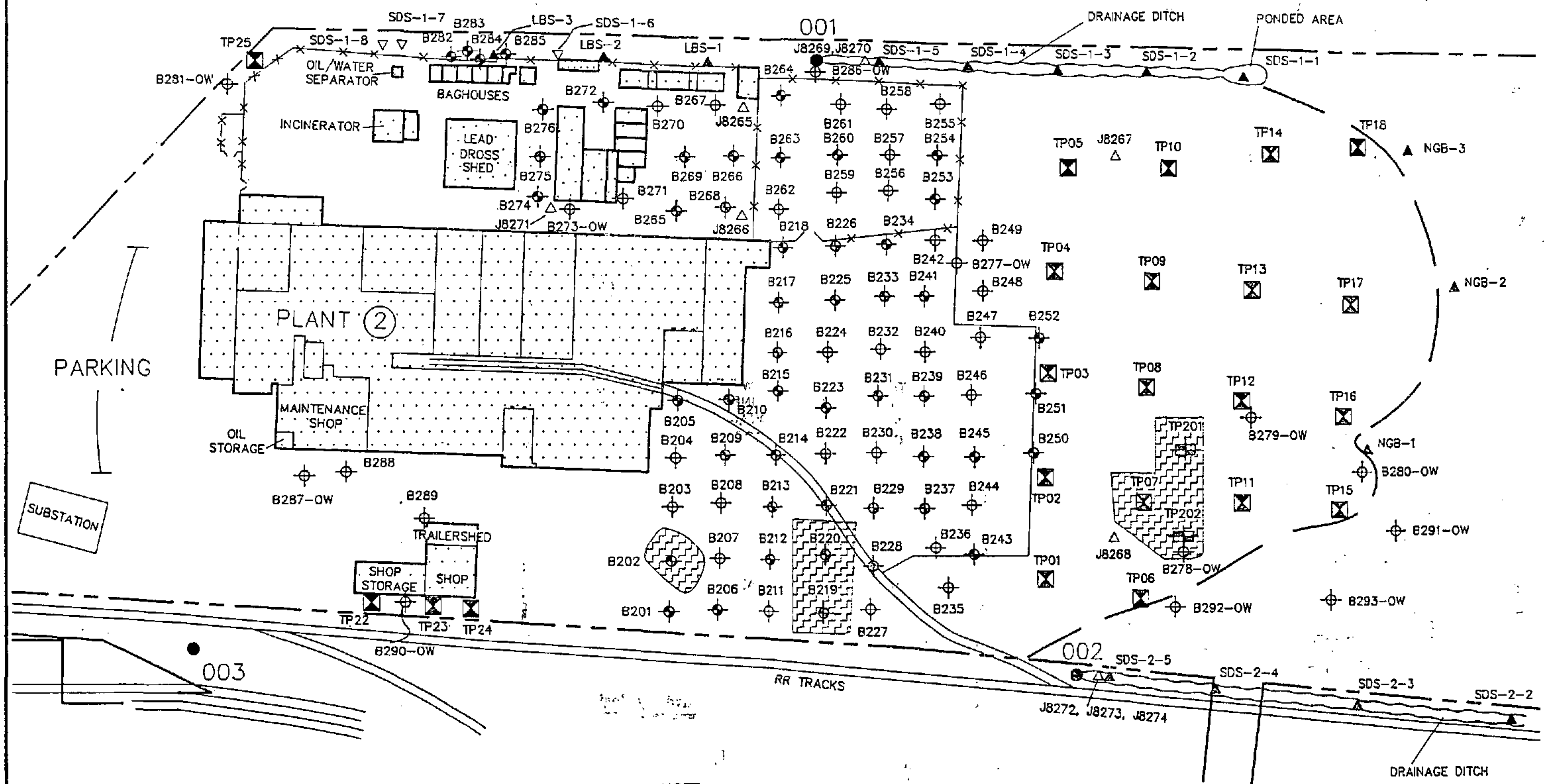
Figure II-13



NOTE:

AREA WITHIN HATCHURED MARKS INCLUDES SOIL WITH PCB'S CONCENTRATIONS >25 PPM.
AREA IS ESTIMATE ONLY BASED ON SAMPLING AND ANALYSIS PERFORMED TO DATE.

ACTUAL EXTENT OF COMPOUND PRESENCE MAY DIFFER.

H & A of New York
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

ROTH BROS. PLANT 2
EAST SYRACUSE, NEW YORK

PCB THRESHOLD AREAS

SCALE: 1 IN. = 100 FT.

FOIL204800

MAY 1991

Figure II-14

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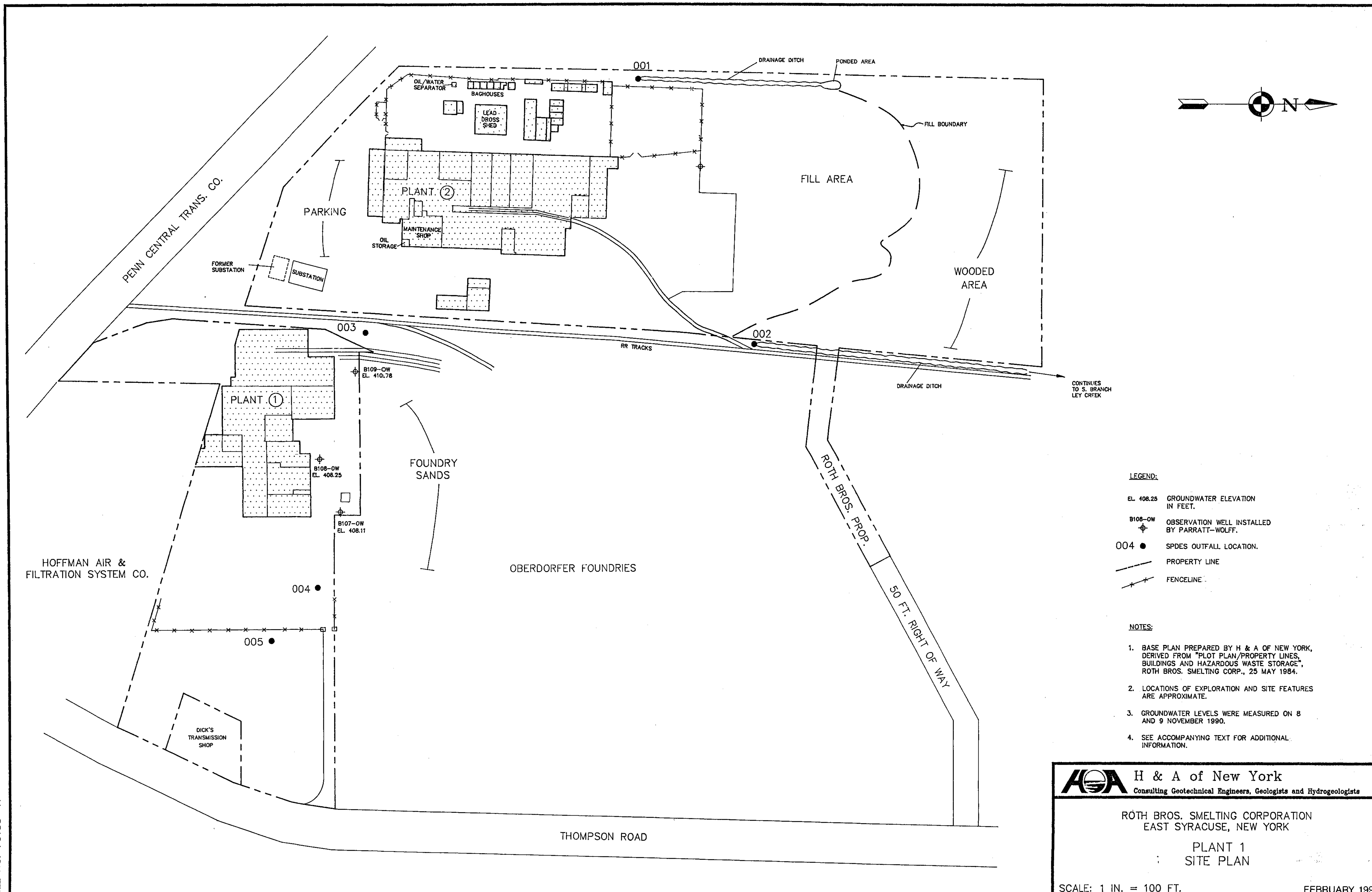
CHARRETTE



Source: Reference 55 Figure II-15

To determine if the spent foundry sands on the adjacent property were adversely affecting groundwater quality, these wells were sampled and analyzed for phenols and cyanide, which are hazardous substances typically associated with foundry sands. No phenols or cyanides were detected above laboratory detection limits in the four groundwater samples submitted for analysis (Reference 55).

Plant No. 2 Groundwater Investigations

A thin layer of black oil was noted on the surface of the groundwater in one of the test pits made in the maintenance yard which contains the Former USTs (AOC A), the Diesel Pumping Station (SWMU 33), and the Steam Cleaning Room (SWMU 32). An oily sheen was also noted on groundwater in the Suspected Oil Seep Area (SWMU 43).

Nine additional groundwater monitoring wells were installed in the vicinity of Plant No. 2 to determine groundwater flow direction and water quality.

Groundwater sampling was conducted in November 1990 and January 1991. Total iron concentrations exceeded the New York State (NYS) Water Quality Criteria of 0.300 ppm (aethetic based standard) in all wells, and total lead concentrations exceeded the NYS Water Quality criterion of 0.025 ppm. PCBs were not detected in 11 out of 12 wells sampled. Groundwater from the two wells in the maintenance yard were analyzed for total petroleum hydrocarbons (TPH); concentrations of 4.52 TPH were detected in one well by infrared analysis but not by gas chromatography.

Two soil borings in the maintenance yard were converted to groundwater monitoring wells; groundwater samples from these wells contained up to 4.52 ppm TPH.

III. Environmental Setting

III-A. Location and Surrounding Land Use

Roth Brothers is located in the north-central portion of Onondaga County, New York. The facility coordinates are latitude 43°04'23" and longitude 76°05'53" (Reference 16). As shown in Figure III-1, the site is bordered to the south and west by the Penn Central railway system, to the east by Thompson Road, and to the north by the South Branch of Ley Creek (Reference 9). The facility covers approximately 32 acres (Reference 9). Plant Nos. 1 and 2 are also separated by a railroad right-of-way apparently owned by Oberdorfer Foundry. Roth Brothers has occupied this property since 1949 (References 1, 55, and 56).

Currently the facility is surrounded by industrial and residential areas. To the south, the site is bordered by Hoffman Air and Filtration System Company (fan and vacuum equipment assembly), and to the north the facility is bordered by the Oberdorfer Foundry (aluminum foundry). Along this northern property line, Oberdorfer stores large piles of foundry sands, which are referred to as the Oberdorfer fill area. To the east the adjacent property is occupied by a transmission shop and residential areas.

During the VSI, an area was observed outside the western border of the facility which appeared to be an uncontrolled dump site. The facility representatives could not provide the source of the disposed material or identify the land owner. A stream of potentially contaminated water (refer to Photograph 42.1) appeared to originate from the waste pile approximately thirty feet south of SPDES Outfall 001 Drainage Area (SWMU 45) near Plant No. 2 (Reference 53).

III-B. Climate and Meteorology

The climate of Onondaga County is characterized by high humidity and variable weather conditions. Summers are warm with average Fahrenheit temperatures ranging from the upper seventies to the mid eighties. Winters are long and cold with heavy snowfall. Average temperatures in the winter months range from 15°F to 31°F. The average rainfall in the County is 38 inches per year, with the periods of greatest rainfall from May to September. The average annual snowfall ranges from 100 to 120 inches (Reference 50).

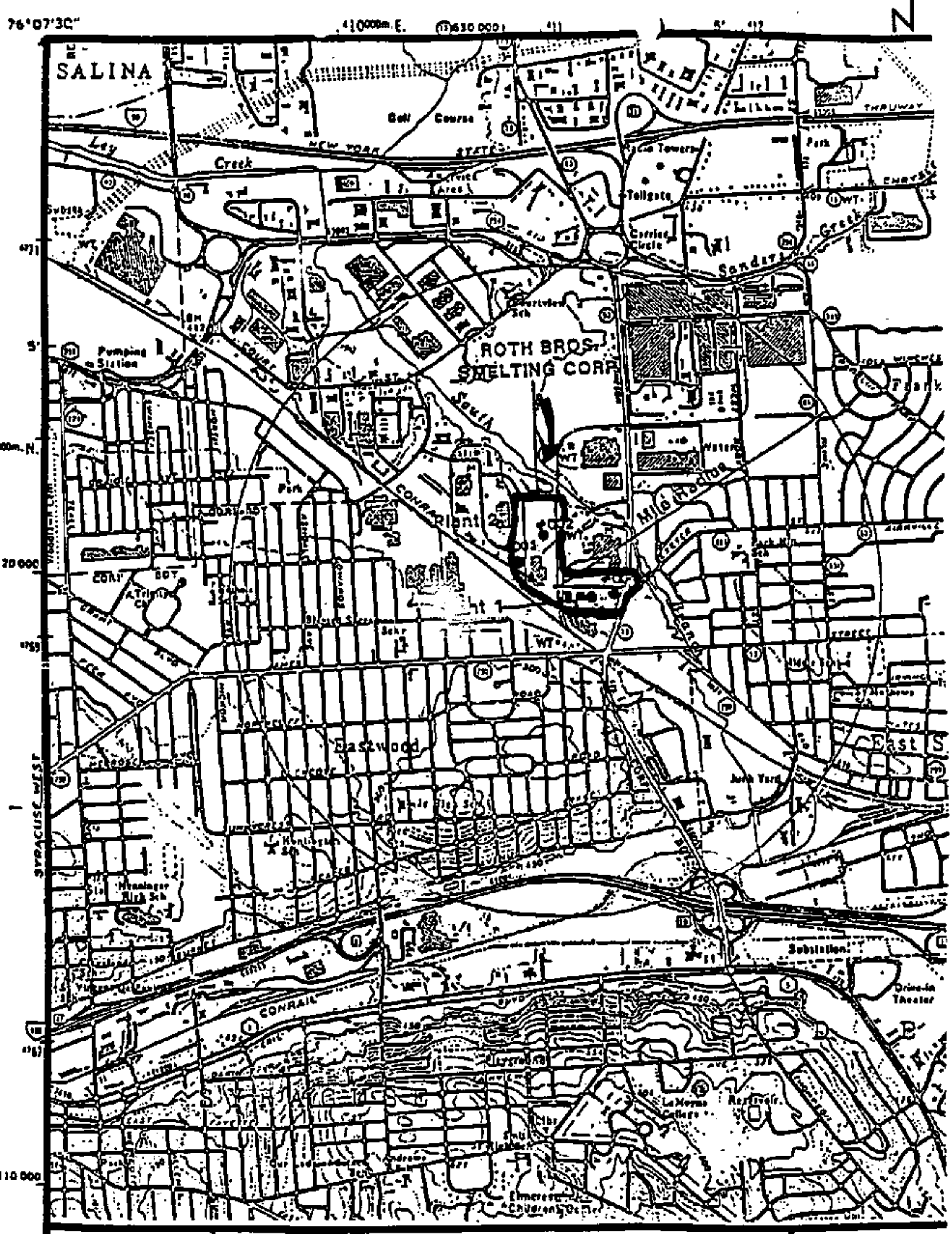
III-C. Topography and Surface Drainage

The topography of Onondaga County varies from low lying till plains to rolling hills. The topography of the Roth Brothers site is predominantly flat plains. According to the Onondaga

FOIL204803

Figure III-1

Roth Brothers Facility Location Map



MALCOLM PIRNIE

ROTH BROS. SMELTING CORPORATION

MALCOLM PIRNIE, INC.

AUGUST 1988

FOIL204804

County Soil Survey, all drainage from Onondaga County flows north into Lake Ontario.

Drainage from the facility flows predominantly north/northeast from Plant No. 2 and east from Plant No. 1. Currently, surface drainage from the facility is released through the SPDES permitted outfalls designated on Figure III-2. The outfalls discharge either directly to an unnamed tributary to the South Branch of Ley Creek, or to a sewer system which discharges to the tributary (References 9, 50).

The facility is currently paved. However, much of the paving was done in 1988. It is unknown where surface drainage occurred before this time.

III-D. Floodplain and Surface Water

The South Branch of Ley Creek lies approximately 1/4 mile east of the Roth Brothers site. This creek discharges into Ley Creek approximately 6500 feet northwest of the site. According to facility representatives, Roth Brothers is not located within the 100-year flood plane of this creek. (References 9, 50, 53, and 56).

Surface water supplies are plentiful throughout Onondaga County. The City of Syracuse receives its water supply from Otisco Lake or Skaneateles Lake. In addition, a large volume of water is available from a six-foot pipeline from Lake Ontario (References 1, 21, 22, and 23).

III-E. Soils and Geology

The Roth Brothers facility lies within the Erie-Ontario Plain Physiographic Province. The bedrock in Onondaga County is mostly limestone, siltstone and shale deposited by glaciation. This province contains soils derived from glacial till, lake-laid silt, clay and gravel. Soils are generally deep, gently sloping and have moderate drainage. According to the Soil Survey of Onondaga County, the predominant soil type in the area of the Roth Brothers facility is Urban. Urban land is classified as large areas that have been so altered or obscured by urban development that identification of soils is not feasible (Reference 50).

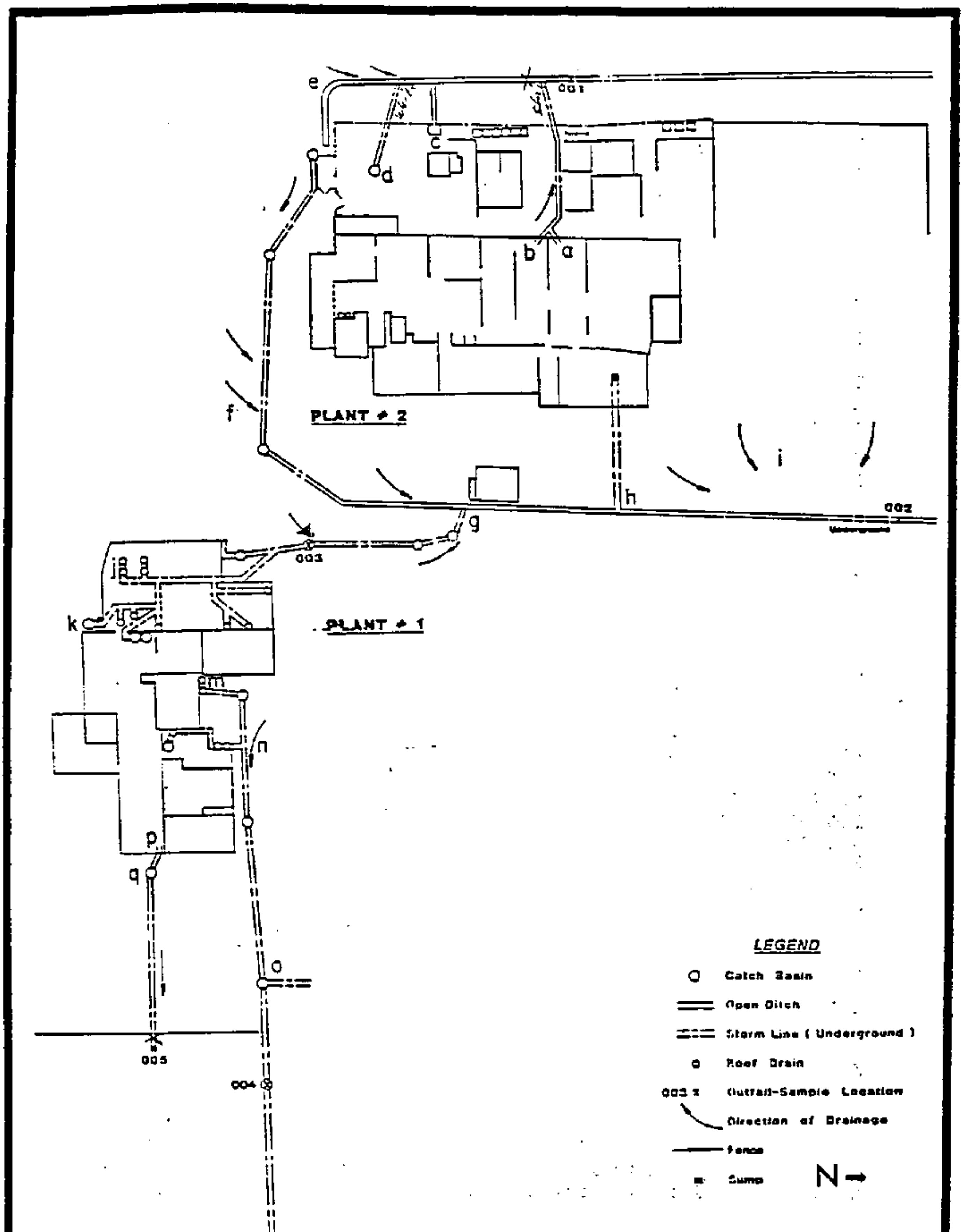
Site specific geologic conditions in the vicinity of Plant No. 1 were investigated during 1990 and 1991. Test borings identified fill material (gravelly sand) overlying lacustrine sand and silt. A red-brown sandy silt was encountered in borings advanced beneath the lacustrine sand and silt. The results of these test borings are provided in Attachment F, and the locations of the borings are provided in Figure II-15 (References 55 and 56).

August 1990 test borings in the Northern Waste Storage Area (SWMU 29) identified granular fill materials (gravel, sand and some silt, with up to 20% brick, wood, concrete, asphalt, cinders and

FOIL204805

Figure III-2

Surface Drainage and SPDES Outfalls



Source: Reference No. 24

FOIL204806

scrap metal) to depths of two to six feet; ash was also encountered in one test pit in this unit. The reports of these and other test pits made in the Plant No. 2 area are provided in Attachment F, and the locations of the test pits are identified in Figure III-3 (References 55 and 56).

III-F. Groundwater

Regional groundwater may be used for farming or industrial processes. Groundwater yields as high as 350 gallons per minute are available from glacial sand and gravel deposits in the stream valleys. Despite the large number of sources, the majority of the groundwater in Onondaga County is contaminated with saltwater from the underlying bedrock (Reference 50).

Preliminary monitoring of groundwater wells installed at the facility in 1990 (one measuring event) indicates that groundwater flows to the southeast in this vicinity, flowing from the adjacent Oberdorfer fill area to the Roth Brothers Plant No. 1 site (Reference 55).

Groundwater was encountered at relatively shallow depths in the test pits made during the Phase I environmental investigation of Plant No. 2 (Reference 56). These preliminary investigations indicate that the unconsolidated lacustrine deposits form a shallow unconfined aquifer beneath the site. Depth to groundwater in the areas receiving fill material was 5.5 feet to 7.0 feet.

Based on these preliminary investigations of nine wells installed in 1990, a potentiometric surface map was developed, which is present in Figure II-12. Groundwater flow is generally to the northeast, with apparent discharge points along the east boundary of the facility to the south branch of Ley Creek.

III-G. Receptors

Roth Brothers is located in the north-central portion of Onondaga County in East Syracuse, New York. Potential receptors for the facility include the town of East Syracuse and inhabitants of nearby residential areas. Roth Brothers is surrounded by industrial facilities, but there are some residential areas to the east of the site. According to facility representatives, there are no drinking water wells within a one-mile radius of the site. The surrounding area is served by city drinking water which is drawn from Lake Ontario (Reference 53).

IV. Description of Solid Waste Management Units and Areas of Concern

This chapter presents detailed descriptions of each Solid Waste Management Unit (SWMU) and Area of Concern (AOC) identified during the Preliminary Review (PR) and the Visual Site Inspection (VSI). They include descriptions of the unit, history of use and operation, wastes managed, release controls, release history and remedial action/interim measures taken.

Table IV-1 lists the 48 SWMUs and 2 AOCs identified at Roth Brothers. Detailed descriptions follow. Attachment B contains photographs of SWMUs and AOCs identified during the VSI, and Attachment C shows the approximate location of each SWMU and AOC.

FOIL204808

Table IV-1
Solid Waste Management Units (SWMUs)
and Areas of Concern (AOCs)

Roth Brothers Smelting Corporation
East Syracuse, New York

SWMU NO.	SWMU NAME
Plant No. 1	
1	Chip Dryer
2	Baghouse No. 1
3	Baghouse No. 2
4	Aluminum Furnaces (3)
5	Inground Oil/Water Separator
6	Hydraulic Oil/Water Separator
7	Hydraulic Oil Empty Drum Storage Area
8	Aluminum Turnings Storage Yard
9	Loading Station for Fuel Tanks
10	Secondary Containment for Fuel Tanks
11	Aluminum Dust Storage Area
12	Waste Aluminum Fines Storage Area
13	Northeast Drainage Ditch
14	Zamac Furnace
15	Zinc Pot
Plant No. 2	
16	Lead Furnace
17	Lead Pots (4)
18	Lead Tilt Furnace
19	Aluminum Crusher
20	Dust Collector
21	Baghouse No. 3
22	Baghouse No. 4
23	Baghouse No. 5
24	Former Baghouse
25	Copper Wire Incinerator
26	Sweat Furnace
27	Copper Furnace
28	Sweat Furnace Oil/Water Separator
29	Northern Waste Storage Area
30	Waste Oil Tanks (4)
31	Waste Oil Burner
32	Steam Cleaning Room
33	Diesel Pumping Station
34	Ion Exchange Unit

FOIL204809

Table IV-1
Solid Waste Management Units (SWMUs)
and Areas of Concern (AOCs)

Roth Brothers Smelting Corporation
East Syracuse, New York

SWMU NO.	SWMU NAME
35	Lead Dust Storage Area
36	Copper Dust Storage Area
37	Laboratory Satellite Accumulation Area
38	Safety-Kleen Degreasers
39	Stormwater Drainage System
40	Lead Particle Settling Unit
41	Outfall 003 Waste Pile
42	Lead Dross Shed
43	Suspected Oil Seep Area
44	Former Substation
45	Outfall 001 Drainage Area
46	Outfall 002 Drainage Area
47	Outfall 003 Drainage Area
48	Outfall 004 Drainage Area

AOC	AOC NAME
A	Former USTs
B	Lime Ash Bag Storage Area

FOIL204810

Unit Number:	1
Unit Name:	Chip Dryer (Photograph No. 1.1)
Unit Description:	The Chip Dryer is located against the northern wall of Building No. 6B in the northeast corner of Plant No. 1. It was moved within the plant to its present location in 1970. The unit consists of a large horizontal rotary drum in which aluminum chips are heated to approximately 700°F to remove oil and grease. It is also equipped with an afterburner to decrease emissions. An incline conveyor belt brings crushed aluminum chips to the unit. Aluminum fines which are captured in the afterburner are stored in the Waste Aluminum Fines Storage Area (SWMU 12) just outside this unit. Once the aluminum chips are dry, a magnet is used to extract any iron from the aluminum prior to smelting in the Aluminum Furnaces (SWMU 4). Aluminum chips which have been processed through this unit are stored indoors until being smelted. At the time of the VSI, facility representatives stated that the amount of oil on incoming aluminum turnings has decreased in recent years because their suppliers have begun using centrifuges to recover these oils before selling the scrap aluminum.
Date of Start-Up:	The unit was installed in December 1962 according to the facility air permits.
Date of Closure:	The unit was active at the time of the VSI.
Waste Managed:	The unit manages crushed aluminum turnings containing oil and grease. The unit generates aluminum dust which contains cadmium and lead (D006 and D008).
Release Controls:	The unit is located indoors on an intact concrete pad. Air emissions from this unit were managed by the Former Baghouse (SWMU 24) from 1977 to 1987. When this

Baghouse burned, the Chip Dryer was tied to Baghouse No. 2 (SWMU 3).

History of Releases: Air emissions from this unit are now permitted as emission source 00018. In April and November 1971, the NYSDEC cited the facility for air emissions from this unit in excess of allowable limits. A consent agreement was issued compelling Roth Brothers to repair and/or modify all equipment producing air contaminant emissions.

The facility installed a venturi scrubber on the unit to control the air emissions. However, the scrubber was prone to malfunctions and in November 1976 the pump on the scrubber broke causing uncontrolled emissions from the unit. At that time Roth Brothers agreed to replace the scrubber with a limestone injection baghouse (the Former Baghouse, SWMU 24) to reduce air emissions. One NYSDEC inspection in September 1987 noted a violation regarding emissions from this unit due to bags needing replacement in the baghouse.

References: 3, 10, 11, 28, 45, 46, 49, 51, 52, 53

FOIL204812

Unit Number: 2

Unit Name: Baghouse No. 1 (Photograph No. 2.1)

Unit Description: This shaker baghouse is located on the roof of Building No. 8 in Plant No. 1. The unit is a Buell unit with five compartments and a capacity of 63,000 cubic feet per minute (cfm). This baghouse handles the emissions from all three Aluminum Furnaces (SWMU 4). The facility holds an air permit for this unit which was renewed for five more years in 1989. Bags are changed twice per year (during semi-annual shutdowns in July and December) or as needed; individual baghouse modules can be shutdown as needed. Used bags are disposed along with baghouse dust.

Baghouse particulates are collected in Gaylord corrugated cardboard boxes (3.5 feet cubed with a capacity of approximately 27 cubic feet) which are lined with polyethylene bags. Since 1980/1981, the collected aluminum dust has been stored in the Aluminum Dust Storage Area (SWMU 11) and disposed as hazardous waste. Facility representatives have estimated that Roth Brothers generates approximately 60 tons per month of aluminum baghouse dust from Baghouse Nos. 1, 3, and 5 (SWMUs 2, 21, and 23). According to facility representatives, this waste was probably stored on trailers or in open piles on facility property prior to the implementation of RCRA until sufficient quantities had accumulated to ship to the DeWitt Landfill.

Table IV-2 lists baghouse specifications for all five facility baghouses.

Date of Start-Up: The unit was installed in June 1977 and was operational by October 1977.

Table IV-2, Baghouse Specifications Source: Reference 53

	BAGHOUSE	LEAD COMPARTMENT 1, 2, 3, & 4	LEAD COMPARTMENT 5 & 6	LEAD COMPARTMENT 7	ALUMINUM CRUSHER	ALUMINUM FURNACES PLANT No.1	GERMAN ROTARY HOOD ALUMINUM ROTARY DRYER COPPER ROTARY	CHIP DRYER
	MANUFACTURER:	I.C.A.	DUSTY DUSTLESS	CARBORUNDUM	PANGBORN	BUELL	BUELL	WHEELABRATOR
	SERIAL NUMBER	N3830		6 -065-1-04-01		8690	8691	A125409
	FILE NUMBER	1 - D	1 - C	1 - E		1 - A	1 - B	1 - G
	DRAWING NUMBER	SK3150 - 102	SK3111 - 104	SK3151 - 101	3153 - 100	SK3160 - 104	SK3170 - 111	SK3161 - 101
	BAG LENGTH	174"	166"	166"	98"	270"	271"	160"
	BAG DIAMETER	5½"	6"	5"	5¼" W X 37"	8"	8"	5"
	# OF COMPARTMENTS	4	2	1	1	5	3	6
	BAGS W/O SLEEVES	160	152	264	1	120	120	180
	BAGS W/ SLEEVES	80	76					
	BAGS / COMPARTMENT	240	228	264	68	120	120	180
	TOTAL BAGS REQ'D.	960	456	264	68	600	360	1,080
	TYPE OF BAGS	LOOPS	LOOPS	CAP	LOOP W/ ROD	STRAP	COX TYPE HANGER	STRAP
	C.F.M. (2:1 RATIO)	40,000	20,000	10,000	9,000	63,000	33,000	48,000
	CLOTH AREA / COMPARTMENT	5,000	5,002	4,970	4,360	5,675	5,667	3,384
	CLOTH AREA TOTAL	20,000	10,004	4,970	4,360	28,275	17,001	20,304
BLOWER	MANUFACTURER	ROBINSON	PEERLESS ELECTRIC	NEW YORK		CHAMPION	AMERICAN	CHICAGO
	TYPE	"J" SIZE 49	SIZE 445 SW	SER 15GI SIZE 454LS		SIZE 100LS	TYPE E SIZE 63	44 ½ B CLASS
	SERIAL No.	6950 - 1						
	SHAFT SIZE	4 7/16"	3 7/16"	2 11/16"			4 15/16"	
	SHEAVE		5R5V140	6S5V125		8V5V212U1	10U5V132	
	SPEED (R.P.M.)		1360	1186		825	900	952
MOTOR	HORSEPOWER	150	100	75	50	(2) 150	150	(2) 100
	SPEED (R.P.M.)	1775	1745	1745	1765	1185	1185	1185
	SHAFT SIZE	3⅜"	2⅛"				3⅜"	
	SHEAVE		5R5V109	6S5V85		8V5V150S1	8S5V103	
		← Baghouse No. 4 (SWMU 22) →			Baghouse No. 3 (SWMU 21)	Baghouse No. 1 (SWMU 2)	Baghouse No. 5 (SWMU 23)	Baghouse No. 2 (SWMU 3)

EQU204814

Date of Closure:	The unit was active at the time of the VSI.
Waste Managed:	The unit manages aluminum dust containing lead and cadmium (D006, D008) and magnesium chloride formed from the removal of magnesium using chlorine.
Release Controls:	Dust from the unit is packaged in polyethylene lined corrugated boxes. The collection point for the unit is located inside a metal shed inside of Plant No. 1. Lime is used to prevent blinding of bags (if temperature of baghouse drops below dew point) and minimize the chance of spontaneous combustion of baghouse dusts.
History of Releases:	Air emissions are permitted as emission sources 00016 and 00021. At the time of the VSI, small visible discharges were escaping around the edges of the baghouse exhaust collection system above at least one of the Aluminum Furnaces (SWMU 4).
References:	1, 9, 10, 15, 22, 52, 53

FOIL204815

Unit Number:	3
Unit Name:	Baghouse No. 2 (Photograph Nos. 3.1, 3.2)
Unit Description:	The unit, also known as the Chip Dryer Baghouse (or Wheelabrator Baghouse), was installed on the south side of Building No. 5 in the Aluminum Turnings Storage Yard (SWMU 8) in Plant No. 1. This 48,000 cfm shaker baghouse has six compartments. This unit handles emissions from the Chip Dryer (SWMU 1) and the Zinc Pot (SWMU 15); it also managed exhausts from the Zamac Furnace (SWMU 14) until this equipment was taken out of service in 1989. Bags are changed twice per year (during semi-annual shutdowns in July and December) or as needed; individual baghouse modules can be shutdown as needed. Used bags are disposed along with baghouse dust. Dust is collected in polyethylene lined corrugated boxes (3.5 feet cubed). Filled boxes are stored with nonhazardous waste before being disposed in the DeWitt or Modern Landfills. Facility representatives have estimated that Roth Brothers generates approximately one ton per month of baghouse dust from this unit. Table IV-2 lists this baghouse specifications for all facility baghouses. The facility's air permit for this unit was renewed in 1989; it expires in 1994.
Date of Start-Up:	The unit was installed in November 1980 and was replaced in approximately 1988.
Date of Closure:	The unit was active at the time of the VSI.

Waste Managed:	The unit manages baghouse dust from the Chip Dryer (SWMU 1) and the Zinc Pots (SWMU 15); prior to 1989 it also managed dust generated by the Zamac Furnace (SWMU 14). According to facility representatives and the facility's Part 373 (RCRA) permit, this dust is nonhazardous based on TCLP analysis.
Release Controls:	Lime is used to prevent blinding of bags (if temperature of baghouse drops below dew point) and minimize spontaneous combustion of baghouse dusts. Particulates are collected in Gaylord corrugated cardboard boxes lined with polyethylene bags; the area beneath the boxes is paved, and at least partially protected from precipitation by the overlying structure of the baghouse. Collection points are equipped with a hood to prevent wind dispersal of the dust.
History of Releases:	Air emissions are permitted as emission sources 00018 and 00022. This unit was reportedly out of compliance during a NYSDEC inspection on September 24, 1987.
References:	15, 52, 53

Unit Number: 4

Unit Name: Aluminum Furnaces (3) (Photograph No. 4.1)

Unit Description: This unit consists of three refractory lined aluminum furnaces which are all located in Plant No. 1. Units 4A and 4B (capacity of 125,000 pounds of aluminum each) are located in Building No. 1, and the third unit (4C, capacity of 90,000 pounds of aluminum) is located in the northwest corner of Building No. 8. All three units are fueled with natural gas. These units typically are not shut down, but at the time of the VSI, the smallest unit (4C) was not in operation. The facility has apparently had difficulty with the exhaust collection system between these units and the baghouse and/or baghouse maintenance.

These furnaces are the principal smelting units in Plant No. 1. Approximately 80% of all aluminum scrap is passed through the Aluminum Crusher (SWMU 19) or the Chip Dryer (SWMU 1) prior to smelting in these furnaces; approximately 20% of incoming scrap can be directly charged to the furnaces. Currently the facility produces an estimated 80 million pounds per year of aluminum products (ingots and 1000-pound aluminum sows) in these furnaces; rejected ingots are recycled back to the furnace. An additional 5 to 10 million pounds per year of aluminum dross (approximately 15% aluminum) from the smelting process, are stored in various locations throughout the facility before being sold to other aluminum recyclers.

Date of Start-Up: Roth Brothers has smelted aluminum since beginning operations at this site in 1949; however the number of furnaces has increased to three with past expansions, and the existing furnaces have been replaced on an as needed basis.

Date of Closure: The units were operational at the time of the VSI.

Unit Number: 5

Unit Name: Inground Oil/Water Separator (Photograph No. 5.1)

Unit Description: This unit consists of a covered concrete gravity separator which is located in the central portion of the Aluminum Turnings Storage Yard (SWMU 8). It consists of a series of inground weirs (total capacity of 360 cubic feet) which hold back the heavier oils and allow water and lighter oils to overflow into the Stormwater Drainage System (SWMU 39) leading to the Outfall 004 Drainage Area (SWMU 48). Approximately twice each month, the separator is cleaned and the collected oily sludges are added to the Hydraulic Oil/Water Separator (SWMU 6) for further reclamation. At the time of the VSI, the unit was filled with water preventing assessment of its integrity. Facility representatives stated that the amount of oil on incoming aluminum turnings has decreased in recent years because their suppliers are now using centrifuges to recover these oils before selling the scrap aluminum.

Date of Start-Up: The unit began operations in 1986.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: This unit manages oily runoff from the incoming aluminum turnings stored in the Aluminum Turnings Storage Yard (SWMU 8).

Release Controls: This unit is located in a paved outdoor storage yard. The unit is constructed of concrete, but its integrity could not be determined at the VSI.

History of Releases: This unit routinely releases oily wastewaters to Outfall 004 Drainage Area (SWMU 48).

References: 53

FOIL204819

Unit Name: 6

Unit Name: Hydraulic Oil/Water Separator (Photograph No. 6.1)

Unit Description: This unit is located in the northwest corner of the Aluminum Turnings Storage Yard (SWMU 8) outside Plant No. 1. It consists of an aboveground metal oil/water separator and an inground concrete weir and drainage ditch which are under a corrugated metal roof. Two sides of this area are open, and the rear and east walls are formed by the exterior walls of Plant No. 1. The Hydraulic Oil Empty Drum Storage Area (SWMU 7) is also located beneath this shed.

Runoff from aluminum turnings storage bins in the northwest corner of the Aluminum Turnings Storage Yard (SWMU 8) flows into the drainage ditch and weir. Periodically this weir is manually cleaned and its contents are transferred to the oil/water separator. Separated oil is transferred to the adjacent Waste Oil Tank (SWMU 30C), where it is stored during the summer months (or until full). In the winter, this waste oil is manually pumped to the Waste Oil Tanks (SWMUs 30A, B, and D) in the maintenance shop where it is burned in the Waste Oil Burner (SWMU 31) to produce heat. The water which separates from the oil is allowed to overflow into the Stormwater Drainage System (SWMU 39) which discharges to the Outfall 004 Drainage Area (SWMU 48).

The unit also receives oily wastes which are manually transferred from the Sweat Furnace Oil/Water Separator (SWMU 28) on a monthly basis; these wastes are partially evaporated in open containers under the shed (to reduce the waste volume) before further processing in the oil/water separator (SWMU 6).

FOIL204820

Periodically, the Inground Oil/Water Separator (SWMU 5) and the oil/water separator at the Steam Cleaning Room (SWMU 32) is cleaned and these oily sludges are also processed in the Hydraulic Oil/Water Separator.

Prior to the installation of the Waste Oil Burner (SWMU 31) in 1989, the facility maintained a contract with Safety-Kleen to dispose of their waste oils; the facility representative did not know how hydraulic oils were disposed prior to the early 1980's when the Safety-Kleen contract was initiated and this unit was constructed.

Facility representatives stated that the amount of oil on incoming aluminum turnings has decreased in recent years because their suppliers are now using centrifuges to recover these oils before selling the scrap aluminum.

At the time of the VSI, the underlying concrete of this unit was heavily stained and cracked. In addition, the separator was filled to overflowing with standing brown liquid. This prevented assessment of the integrity of the unit.

Date of Start-Up: The unit began operations in 1980.

Date of Closure: This unit was still active at the time of the VSI.

Waste Managed: This unit manages waste maintenance oils and stormwater runoff contaminated with oils. Facility representatives have estimated that they generate approximately 200 gallons per month of waste oil from vehicle maintenance and the four oil/water separators (SWMUs 5, 6, 28, and 32).

Release Controls: The inground drainage ditch, the weir, and the base of this unit are concrete and the entire unit is covered by a shed and enclosed on two sides.

FOIL204821

History of Releases:	At the time of the VSI, the concrete base of this unit was heavily stained. This unit routinely releases oily wastewaters to Outfall 004 Drainage Area (SWMU 48).
References:	53

FOIL204822

Unit Number: 7

Unit Name: Hydraulic Oil Empty Drum Storage Area (Photograph No. 7.1)

Unit Description: This unit is located beneath the shed on a concrete base which covers the Hydraulic Oil/Water Separator (SWMU 6) in the northwest corner of the Aluminum Turnings Storage Yard (SWMU 8). At the time of the VSI, it contained approximately 30 55-gallon drums stacked two high. Some of the drums were rusted and/or dented. They appeared to be stacked over a portion of the weir associated with the Hydraulic Oil/Water Separator (SWMU 6).

These empty drums apparently once contained hydraulic oils from maintenance of facility vehicles; from the early 1980's until the Waste Oil Burner (SWMU 31) was installed in 1989, these waste oils were disposed under a contract with Safety-Kleen. Currently these oils are burned in the facility's Waste Oil Burner (SWMU 31). Facility representatives did not know how hydraulic oils were disposed prior to the installation of the Hydraulic Oil/Water Separator (SWMU 6) in 1980. At the time of the VSI, some drums were clearly marked "waste oil". These drums are removed from this unit and steam cleaned in the Steam Cleaning Room (SWMU 32) prior to being sold to a drum recycler.

At the time of the VSI, the concrete beneath this unit was heavily stained and cracked.

Date of Start-Up: Facility representatives could not specify when the unit was constructed.

Date of Closure: The unit was active at the time of the VSI.

Waste Managed: The unit manages drums which may contain residual waste oils.

Release Controls:	This unit is located on a concrete base beneath a shed enclosed on two sides. At the time of the VSI, all visible 55-gallon drums were covered.
History of Releases:	The concrete base of this unit was heavily stained and cracked at the time of the VSI.
References:	53

FOIL204824

Unit Number: 8

Unit Name: Aluminum Turnings Storage Yard (Photograph Nos. 8.1, 8.2, 8.3, 8.4)

Unit Description: This is a paved outdoor unit (approximately 40,000 square feet in area), which is located southeast of Plant No. 1, stores aluminum turnings possibly contaminated with oil and grease. The exterior walls of Plant No. 1 and the corrugated metal fence enclosing this area are lined with storage bins (partitions), some of which are covered by corrugated metal roofs. These bins were reportedly installed by the facility six or seven years ago.

At the time of the VSI, other turnings were stored in uncovered piles in the central portion of the yard. The volume of stored turnings varies, depending on the rate of production and the products being manufactured. When needed, the turnings are processed in the Chip Dryer (SWMU 1) and the Aluminum Crusher (SWMU 19) prior to smelting.

The unit also contains a large dumpster for the collection of construction debris and pallets. The Inground and Hydraulic Oil/Water Separators (SWMUs 5 and 6), and the Hydraulic Oil Empty Drum Storage Area (SWMU 7) are all located within this unit. Facility representatives have stated that the amount of oil on incoming aluminum turnings has decreased in recent years because their suppliers are now using centrifuges to recover these oils before selling the scrap aluminum.

The portion of the Yard nearest the facility's eastern border was not paved until 1988. At the time of the VSI, the concrete underlying the unit was heavily stained and in poor condition. According to facility representatives, this area drains toward Outfall 004 Drainage Area (SWMU 48).

FOIL204825

Date of Start-Up:	The unit began operations in 1946.
Date of Closure:	This unit was still active at the time of the VSI.
Waste Managed:	This unit manages aluminum turnings and runoff contaminated with oil and grease.
Release Controls:	At least part of the runoff is collected by the weir of the Hydraulic Oil/Water Separator (SWMU 6) and the Inground Oil/Water Separator (SWMU 5). The remainder is collected by the Stormwater Drainage System (SWMU 39) or the surrounding soil. The unit is currently enclosed on a concrete base with concrete and corrugated metal walls, however, it was unpaved in the past. Some of the storage bins are covered with corrugated sheet metal roofs.
History of Releases:	PCBs have been detected at the Outfall 004 Drainage Area (SWMU 48) in 1984, 1986, 1987, and 1988. NYSDEC has hypothesized that the PCBs may have come from PCB contaminated oily runoff from this unit.

Roth Brothers sampled the soil at this unit in two locations (J8265, J8266) at the northwest corner of Plant No. 2; samples analyzed for semi-volatiles, total metals and TCLP metals identified 400 ppm and 520 ppm benzo(a)anthracene (estimated); 12,000 ppm and 25,000 ppm bis(2-ethylhexyl phthalate); and 740 ppm benzo(a)pyrene (estimated).

Two soil borings taken in November 1989 in the vicinity of this unit contained kerosene (< 350 mg/kg maximum), fuel oil (< 150 mg/kg maximum), lubricating oil (reported only as "detected"), total PCBs (11 mg/kg maximum), aluminum (7.2 mg/L maximum), barium (1.0 mg/L maximum), cadmium (0.44 mg/L maximum), lead (0.5 mg/L maximum), and zinc (22 mg/L maximum). The locations of these soil borings and data from these analyses are provided in Attachment E (Reference 51).

References: 5, 24, 52, 53

FOIL204827

Unit Number: 9

Unit Name: Loading Station for Fuel Tanks (Photograph No. 9.1)

Unit Description: This unit is associated with the Secondary Containment for Fuel Tanks (SWMU 10) located outside Plant No. 1 on the facility's southern border with U.S. Hoffman. This unit consists of a paved area under an approximately six inch diameter coupling pipe for filling fuel tanks. These 15,000-gallon fuel tanks were installed as a backup system for fuel facility operations. Currently they are only used approximately once a month when the backup system is tested. The pipe extends approximately two feet beyond the secondary containment to within an estimated two feet of the fence along the property line. An unpaved area is located adjacent to the area under the coupling pipe. Refueling tanker trucks access this pipe on Hoffman property by putting coupling hoses through a small permanent opening in the fence. These refueling operations take place once every three or four months. The paving beneath this unit was stained and covered with oil dry at the time of the VSI. This staining suggests routine and systematic releases have occurred from this unit.

Date of Start-Up: The unit began operations in 1982.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: This unit manages routine spillage from the transfer of fuel from tanker trucks to storage tanks.

Release Controls: The area beneath this unit is paved, but it is not encompassed by the Secondary Containment for Fuel Tanks (SWMU 10).

History of Releases: The paving beneath this unit was stained and covered with oil dry at the time of the VSI.

References: 53

Unit Number:	10
Unit Name:	Secondary Containment for Fuel Tanks (Photograph No. 10.1, 10.2)
Unit Description:	This unit is located adjacent to the Loading Station for Fuel Tanks (SWMU 9) on the facility's southern border with U.S. Hoffman. It consists of a paved area with a cinder block containment wall (approximately 30 feet by 50 feet by 4 feet high) for 2 15,000-gallon fuel tanks and a concrete sump in the southwest corner of the unit. The sump is equipped with a small pump and permanent piping over the containment wall to the fence at the property boundary. This pump is reportedly used to periodically discharge accumulated rainwater off the property. This precipitation may contain oil and grease. On the first day of the VSI, this sump contained dark standing liquid, but the remainder of the secondary containment was dry (although the interior containment walls were heavily stained). However, on the second day of the VSI, after morning showers, this sump and the containment area contained standing water with an oily sheen.
Date of Start-Up:	The unit began operations in 1982.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	The unit manages stormwater possibly contaminated with oil and grease.
Release Controls:	There are no secondary release controls for this unit.
History of Releases:	This unit routinely discharges precipitation which may be contaminated with oil and grease off the facility property.
References:	53

Unit Number:	11
Unit Name:	Aluminum Dust Storage Area (Photograph No. 11.1)
Unit Description:	This RCRA-permitted unit is located in a closed room on the south side of Plant No. 1. The walls of the unit are constructed of steel and the floor is concrete. The room measures approximately 20 feet by 25 feet by 15 feet high, and is permitted to store up to 56 boxes or 55-gallon drums of aluminum dust from Baghouse No. 1 (SWMU 2). The dust is stored in polyethylene lined, double walled corrugated boxes measuring 3.5 cubic feet. The boxes are stored and maneuvered on wooden pallets. Steel 55-gallon drums can also be used for storage of the dust in this unit. The facility ships approximately 40,000 pounds per week of aluminum dust to Michigan Disposal as hazardous waste. According to facility representatives, these wastes may have been stored on trailers or in piles on facility property prior to the promulgation of RCRA and were most likely disposed in a municipal landfill. At the time of the VSI, approximately 10 to 15 boxes of aluminum dust were being stored in this area.
Date of Start-Up:	The unit began operations in the early 1980's.
Date of Closure:	The unit was operational at the time of the VSI.
Waste Managed:	The unit manages aluminum dust containing cadmium and lead (D006, D008).
Release Controls:	This unit is enclosed in a room with a concrete base. The boxes of aluminum dust are lined with polyethylene and are also covered with plastic before being moved to the storeroom.

FOIL204830

History of Releases: No evidence of release was identified in the available file material or observed during the VSI.

References: 1, 6, 14, 24, 52, 53

FOIL204831

Unit Number:	12
Unit Name:	Waste Aluminum Fines Storage Area (Photograph No. 12.1)
Unit Description:	This outdoor unit, which measures approximately 10 feet by 20 feet, is located along the northern wall of Plant No. 1, outside of the Chip Dryer (SWMU 1). It consists of open metal hoppers loaded with waste aluminum fines from cleaning of the afterburner on the Chip Dryer (SWMU 1). Every load of this material is reportedly tested (via TCLP for lead, cadmium, and aluminum) before being shipped to a nonhazardous landfill. The facility used the DeWitt Landfill until it was closed in 1988. The facility currently disposes of an estimated 200,000 pounds per year of waste aluminum fines at the Orleans County Landfill in western New York. At the time of the VSI, five metal hoppers containing waste aluminum fines were present in this area. Waste aluminum fines were also being stored in the Northern Waste Storage Area (SWMU 29).
Date of Start-Up:	The unit reportedly began operations in approximately 1970.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	The unit manages waste aluminum fines generated by cleaning of the afterburner of the Chip Dryer (SWMU 1).
Release Controls:	The waste is stored in metal hoppers, but these units are not covered. The area is enclosed on three sides and the base of the area is paved. There is no roof over this storage area.
History of Releases:	No evidence of release was identified in the available file material or observed during the VSI.
References:	53

Unit Number:	13
Unit Name:	Northeast Drainage Ditch (Photograph Nos. 13.1, 13.2)
Unit Description:	This unit is located along the facility's northeast border with the Oberdorfer Foundry. It is a shallow unlined ditch that extends the entire length of the driveway to the main entrance of the plant. Prior to 1986, this unit received oily runoff from the Aluminum Turnings Storage Yard (SWMU 8). The Oberdorfer fill area (which reportedly contains foundry sands) and parking lot are adjacent to this unit. At the time of the VSI, portions of this ditch appeared heavily stained; trash and debris also littered this area. Some standing liquid in this unit had a light oily sheen. An underground tiled drainage pipe was reportedly installed in this unit within the last three or four years to discharge to the Outfall 004 Drainage Area (SWMU 48).
Date of Start-Up:	This unit has been operational since 1949.
Date of Closure:	This unit was still active at the time of the VSI.
Waste Managed:	This unit receives runoff from the driveway to the facility and from the adjacent Oberdorfer fill area and parking lot. Prior to 1986, this unit received oily runoff from the Aluminum Turnings Storage Yard (SWMU 8).
Release Controls:	The majority of this unit is an unlined drainage ditch; however, at least a portion of this unit has reportedly been recently underlain by a tile drain.
History of Releases:	At the time of the VSI, portions of this ditch appeared heavily stained; trash and debris also littered this area. Some standing liquid in this area had a light oily sheen. The facility representative thought that at least part of this runoff was directed to Outfall 004 Drainage Area (SWMU 48), but

it appeared that part of this drainage also went directly to the stormwater drains along Thompson Road or to the subsurface soil.

In November 1990, three groundwater monitoring wells were installed by facility consultants in the vicinity of the unit. The location of these wells is shown in Figure II-15, and the observation well reports and groundwater level monitoring reports are provided in Attachment G.

To determine if the spent foundry sands on the adjacent property were adversely affecting groundwater quality, these wells were sampled and analyzed for phenols and cyanide, which are hazardous substances typically associated with foundry sands. No phenols or cyanides were detected above laboratory detection limits in the four groundwater samples submitted for analysis.

References: 53, 55, 56

Unit Number:	14
Unit Name:	Zamac Furnace (Photograph No. 14.1)
Unit Description:	This unit consists of a reverberatory furnace which is located adjacent to the Zinc Pot (SWMU 15) in the southeast corner of Building No. 5 in Plant No. 1. Until 1989, it was used to melt zinc slab ingots with aluminum bricks to produce zamac (an alloy containing 96% zinc and 4% aluminum). The unit was fueled with natural gas. Starting in 1980, air emissions from the unit were vented to Baghouse No. 2 (SWMU 3). Operation of the unit reportedly ceased in 1988 due to the facility's intent to phase out zamac processing.
Date of Start-Up:	The unit became operational in approximately 1955.
Date of Closure:	Operation of this unit ceased in 1988.
Waste Managed:	This unit smelted zinc and aluminum scrap metal. Up to 22,000 GPD of contact cooling water potentially containing zinc, aluminum, lead, and cadmium from the Zamac process was discharged to the facility's SPDES Outfall 005 through the Stormwater Drainage System (SWMU 39).
Release Controls:	The unit was located indoors on a concrete base. From 1980 to 1988, air emissions from this unit were routed to Baghouse No. 2 (SWMU 3).
History of Releases:	Air emissions from this unit (permitted as emission source 00008) were not controlled prior to installation of Baghouse No. 2 (SWMU 3) in 1980. This process routinely discharged up to 22,000 GPD of contact cooling water to the facility's SPDES Outfall 005.
References:	9, 10, 15, 42, 51, 52, 53

Unit Number:	15
Unit Name:	Zinc Pot (Photograph No. 15.1)
Unit Description:	This smelting unit is located in the southeast corner of Building No. 5 in Plant No. 1, adjacent to the Zamac Furnace (SWMU 14). The unit consists of a steel pot used to smelt zinc and zinc/aluminum alloys (zamac). Although its location has remained the same, the pot itself is changed each year. New and used zinc pots are stored in the Northern Waste Storage Area (SWMU 29). The facility produces an estimated 6 million pounds of zamac per year, but the process is being phased out.
Date of Start-Up:	The unit has been operational since 1955.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	This unit smelts zinc scrap. Up to 22,000 GPD of contact cooling water from the Zamac process potentially containing zinc, aluminum, lead, and cadmium is discharged to the facility's SPDES Outfall 005 through the Stormwater Drainage System (SWMU 39).
Release Controls:	Emissions from this unit are transferred to Baghouse No. 2 (SWMU 3). This unit is located indoors on a concrete surface.
History of Releases:	Air emissions from this unit (permitted as emission source 00022) were not controlled prior to installation of Baghouse No. 2 (SWMU 3) in 1980. The Zamac process routinely discharges up to 22,000 GPD of contact cooling water to the facility's SPDES Outfall 005.
References:	15, 51, 53

Unit Number: 16

Unit Name: Lead Furnace (Photograph No. 16.1)

Unit Description: This unit consists of a refractory lined rotary furnace which is located just south of the Copper Furnace (SWMU 27) in Building No. 2 of Plant No. 2. The furnace measures approximately 11 feet by 11 feet. The facility produced an estimated 20 million pounds per year of lead and solder products. The facility reportedly ceased operating this production line in July 1991 (subsequent to the VSI) to make room for expansion of aluminum smelting operations.

This unit smelted lead drosses (oxides of lead and tin), lead-tin solder, and lead scrap into "sows" (1000 pounds each). For a few years in the late 1980s, the facility also thermally treated electroplating sludges (F006) to reclaim lead. The smelting process used fluxing agents (e.g., soda ash) to reduce the lead and tin oxides to the base metals. The furnace also produced lead slag which may have contained fluxing agents such as soda ash, borax, and coal. This material was returned to the process until its lead content was less than 5 ppm and the material passed the TCLP for lead and cadmium.

Lead slag (approximately 700,000 pounds per year) was disposed in a nonhazardous landfill. The facility used the DeWitt Landfill until it was closed in 1988. Since 1988, the facility shipped this waste to Modern Landfill in Buffalo, New York and Orleans Landfill in Orleans County. Prior to shipment, this slag was stored in uncovered bins in the Northern Waste Storage Area (SWMU 29).

Date of Start-Up: The unit began operations in 1955.

Date of Closure: The unit reportedly ceased operations in approximately July 1991.

Waste Managed: The unit managed lead drosses (oxides of lead and tin), lead-tin solder, lead scrap, electroplating sludges (F006), fluxing agents (e.g., soda ash), and lead slag. An estimated 43,000 GPD of non-contact cooling water from these furnaces and the Copper Furnace (SWMU 27) were discharged to the facility's SPDES Outfall 001 until these units ceased operation. Contact cooling water from lead casting operations was also treated by the facility's Ion Exchange Unit (SWMU 34) prior to discharge to the city sewer.

Release Controls: The unit was located indoors on an intact concrete base. From 1973 until the unit ceased operation in July 1991, air emissions from this unit were routed to Baghouse No. 4 (SWMU 22). Non-contact cooling water from this unit was discharged to Outfall 001 Drainage Area (SWMU 45).

History of Releases: Air emissions are permitted as emission sources 00013 and 00017. No reported air emission controls were associated with this unit prior to 1971. This unit routinely released non-contact cooling water to Outfall 001 Drainage Area (SWMU 45) and treated contract cooling water to the city sewer.

References: 1, 8, 9, 15, 51, 52, 53

Unit Number:	17
Unit Name:	Lead Pots (4) (Photograph No. 17.1)
Unit Description:	Prior to July 1991, the facility had four lead pots located just south of the Lead Furnace (SWMU 16) in Building No. 2 of Plant No. 2. Two of the units have a capacity of 20 tons each, and two of the units have a capacity of 30 tons each. Since approximately 1955, these units smelted lead and tin mixtures (not the oxides), although the iron pots in which the smelting occurred were replaced annually. The facility reportedly ceased operating this production line in July 1991 (subsequent to the VSI) to make room for expansion of aluminum smelting operations. The contents of these pots were poured into a starwheel conveyor to make ingots and wire for the automotive industry. The ingots were cooled with water which was treated in the Ion Exchange Unit (SWMU 34) prior to discharge to the city sewer. These lead pots also produced lead slag which was recycled through the process until the lead content was less than 5 ppm and this material passed the TCLP for lead. Lead slag was disposed in a nonhazardous landfill; the facility used the DeWitt Landfill until it was closed in 1988. Roth Brothers also shipped lead slag to Modern Landfill in Buffalo, New York and Orleans Landfill in Orleans County. Prior to shipment, this slag was stored in uncovered bins, along with the used lead pots, in the Northern Waste Storage Area (SWMU 29).
Date of Start-Up:	The unit began operations in 1955.
Date of Closure:	The unit reportedly ceased operations in July 1991.
Waste Managed:	This unit managed lead and tin scrap mixtures and lead slag. Contact cooling water from lead casting operations was treated by the facility's Ion Exchange Unit (SWMU 34) prior to discharge to the city sewer.

FOIL204839

Release Controls:	These units were located indoors on an intact concrete surface. From 1971 until the facility ceased lead operations in 1991, air emissions (K069) from these units were transferred to Baghouse No. 4 (SWMU 22).
History of Releases:	Air emissions are now permitted as emission source 00012. No reported air emission controls were associated with this unit prior to 1971.
References:	15, 51, 52, 53

Unit Number: 18

Unit Name: Lead Tilt Furnace (Photograph No. 18.1)

Unit Description: This unit is a lead tilting furnace which is located adjacent to the Lead Pots (SWMU 17) in Plant No. 2. It measures approximately 3 feet deep by 1.5 feet in diameter. The pot and the burners were repaired or changed as needed. This furnace was only used approximately once a month to fill special orders; for example, it was used to pour billets to produce lead solder. The facility reportedly ceased operating this production line in July 1991 (subsequent to the VSI) to make room for expansion of aluminum smelting operations.

Date of Start-Up: The date of start-up could not be determined from the available file material, nor from facility representatives at the VSI.

Date of Closure: This unit reportedly ceased operation in July 1991.

Waste Managed: This unit managed lead and tin scrap mixtures, and generated lead slag and air emissions (K069). Poured ingots were cooled with water which was treated in the Ion Exchange Unit (SWMU 34) prior to discharge to the city sewer.

Release Controls: This unit was located indoors on a concrete surface. Emissions (K069) from this unit were routed to Baghouse No. 4 (SWMU 22).

History of Releases: Air emissions are now permitted as emission source 00014. No reported air emission controls were associated with this unit prior to 1971.

References: 15, 51, 53

Unit Number:	19
Unit Name:	Aluminum Crusher (Photograph No. 19.1)
Unit Description:	This unit is located in the northern section of Plant No. 2, in Building No. 4. This unit consists of a conveyor belt, an aluminum crusher, and natural gas powered rotary dryer. Materials enter the system by a conveyor belt which is fed manually. Two attendants monitor the conveyer and remove any off-specification materials prior to processing. The processing rate depends on the size of the incoming aluminum. The unit crushes between 5000 and 20,000 pounds of aluminum chips per hour which are then passed through a rotary dryer and magnet. The rotary dryer burns off any oil and grease or water contamination, and the magnet removes any ferrous materials from further processing. Materials which have passed through this unit are stored in indoor bins prior to smelting in the Aluminum Furnaces (SWMU 4). Aluminum fines (approximately 300,000 pounds per year) from this unit are sold to other recyclers. These materials are stored in various locations inside Plant No. 2 prior to sale. Air emissions from this unit are routed through an afterburner to the Dust Collector (SWMU 20), and Baghouse Nos. 3 and 5 (SWMUs 21 and 23). The Former Baghouse (SWMU 24), which burned in 1987, handled emissions from this unit from 1977 to 1987. Prior to 1977, there were reportedly no emission controls on this unit.
Date of Start-Up:	The unit was installed in June 1970.
Date of Closure:	This unit was still active at the time of the VSI.
Waste Managed:	The unit manages aluminum chips and the oil, grease, and water burned off these materials.

FOIL204842

Release Controls:	Air emissions from this unit are routed to the Dust Collector (SWMU 20) and Baghouse Nos. 3 and 5 (SWMUs 21 and 23). The unit is located inside a building with a concrete floor.
History of Releases:	Air emissions are permitted by NYSDEC as emission sources 00017 and 00020. In April and November 1971, this unit was cited by the NYSDEC for emissions in excess of allowable limits. A consent agreement was issued compelling Roth Brothers to repair and/or modify all equipment emitting air pollutants above the allowable limits.
References:	3, 10, 11, 15, 47, 49, 51, 52, 53

Unit Number:	20
Unit Name:	Dust Collector (Photograph No. 20.1)
Unit Description:	This unit is an above ground metal particle separator which is located outdoors on the west side of Plant No. 2. The unit is tied into the air collection system for Baghouse No. 5 (SWMU 23); it filters out heavy particulates from the Aluminum Crusher (SWMU 19) before the air emissions are routed to the Baghouse. The particulates are collected in polyethylene-lined corrugated boxes. When full, the box is moved directly across the road into the Copper Dust Storage Area (SWMU 36). At the time of the VSI, aluminum dust was noted on the base of the pilings supporting the structure.
Date of Start-Up:	The date of start-up could not be determined from the available file material, nor from facility representatives at the VSI.
Date of Closure:	The unit was still operational at the time of the VSI.
Waste Managed:	The unit manages aluminum dust containing cadmium and lead (D006 and D008).
Release Controls:	In April 1991, this unit was tied into Baghouse No. 5 (SWMU 23). Prior to 1991, this unit was the only emission control associated with the Aluminum Crusher (SWMU 19). Particulates are collected in a corrugated cardboard box lined with polyethylene; the area beneath the box is paved and at least partially protected from precipitation by the overlying structure of the Dust Collector. No hood was attached to the discharge point from this unit to prevent wind dispersion of particulates in the collection box.

History of Releases: Air emissions are permitted as emission source 00017. This unit was not tied to a baghouse until April 1991; however, no evidence of significant prior releases from this unit were identified in the available file material.

References: 53

Unit Number: 21

Unit Name: Baghouse No. 3 (Photograph Nos. 21.1, 21.2)

Unit Description: This unit is a shaker baghouse (also referred to as the Copper Baghouse or the Aluminum Crusher Baghouse) which is located in the northwestern portion of Plant No. 2 just south of the Northern Waste Storage Area (SWMU 29). The unit received air emissions from the Copper Wire Incinerator (SWMU 25), the Sweat Furnace (SWMU 26), and the Copper Furnace (SWMU 27) until April 1991 when these operations were ceased. The unit currently receives air emissions from the Aluminum Crusher (SWMU 19).

This baghouse consists of three compartments with a total capacity of 33,000 cfm. Bags are changed twice per year (during semi-annual shutdowns in July and December) or as needed; individual baghouse modules can be shutdown as needed. Used bags are disposed along with baghouse dust.

Particulates from this unit are collected in polyethylene-lined corrugated boxes (on wooden pallets). When a box becomes full, it is taken to the Copper Dust Storage Area (SWMU 36) where it is stored until the material is disposed as hazardous waste (D006 and D008). The facility has estimated that they generate 60 tons per month of aluminum dust from their three aluminum baghouses (SWMUs 2, 21 and 23). According to facility representatives, this waste may have been stored on trailers or in open piles on facility property prior to the promulgation of RCRA, until it could be transported to the DeWitt Landfill.

Table IV-2 list the baghouse specifications for all facility baghouses.

Date of Start-Up: The unit became operational in September 1977.

Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	This unit managed copper and aluminum dust which contains cadmium and lead (D006, D008).
Release Controls:	All facility baghouses use lime to prevent blinding of bags (if the temperature drops below the dew point) and spontaneous combustion of the collected dust. Baghouse dust is collected in polyethylene-lined corrugated boxes. The boxes are kept on wooden pallets, and the area beneath the pallet is paved. The boxes are partially protected from precipitation by the overlying baghouse structure. Hoods are situated over the box openings to prevent wind dispersal of the dust.
History of Releases:	Air emissions are permitted as emission source 00017. The facility's air permit for this unit was renewed in 1989; it expires in 1994.
References:	1, 52, 53

FOIL204847

Unit Number: 22

Unit Name: Baghouse No. 4 (Photograph No. 22.1)

Unit Description: This unit is a shaker baghouse which is located on the western property boundary of the facility, in the vicinity of the Copper Wire Incinerator (SWMU 25) and the Sweat Furnace (SWMU 26). The unit was used to treat emissions from the Lead Furnace (SWMU 16) and the Lead Tilt Furnace (SWMU 18) prior to these units being shut down in July 1991. The baghouse consists of a unit made by ICA, a unit made by Dusty Dustless, and a unit made by Carborundum, (a total of seven compartments) with a combined capacity of 70,000 cfm. The compartments contain lime-coated bags to prevent blinding of bags (if temperature of baghouses drops below dew point) and spontaneous combustion of the collected dust. Bags are changed twice per year (during semi-annual shutdowns in July and December) or as needed; individual baghouse modules can be shutdown as needed. Used bags are disposed along with baghouse dust.

Lead particulates are collected in polyethylene-lined cardboard boxes (on wooden pallets) at seven collection points. When a box becomes full, it is covered with plastic and transported to the Lead Dust Storage Area (SWMU 35) west of Plant No. 2 near the property boundary.

The facility estimates that it generated 53,846 pounds per month of lead dust (K069) which was sold to a recycler in the United Kingdom until April 1991. At the time of the VSI, the facility was storing this waste until it could find another recycler or disposal site. The facility ceased lead-tin solder processing in July 1991.

According to facility representatives, this waste may have been stored on trailers or in open piles on facility property prior to the implementation of RCRA until it could be transported to the DeWitt Landfill.

Table IV-2 lists the baghouse specifications for all facility baghouses.

Date of Start-Up:	Portions of this seven compartment baghouse were installed in 1973 (ICA unit), 1975 (the Dusty Dustless), and 1976 (the Carborundum).
Date of Closure:	The facility halted the lead operations in July 1991, however, the unit may be converted for use in other operations.
Waste Managed:	The unit managed lead dust (K069) containing lead, cadmium, and hexavalent chromium.
Release Controls:	All facility baghouses use lime to prevent blinding of bags (if the temperature drops below the dew point) and spontaneous combustion of the collected dust. Baghouse dust from this unit was collected in cardboard boxes (on wooden pallets) lined with polyethylene. The area beneath these collection points was paved, and the boxes were at least partially protected from precipitation by the overlying structure of the Baghouse. In addition, each collection point was equipped with a hood for the prevention of wind dispersal of the dust.
History of Releases:	Air emissions are permitted as emission sources 00012, 00013, and 00014. The facility's air permit for this unit was renewed in 1989 to expire in 1994. Four soil samples were taken west of the property fence in the vicinity of Baghouse No. 4 (the Lead Baghouse, SWMU 22). Total lead concentrations ranged from 287 ppm to 4440 ppm; these analyses detected 9.63 ppm to 18.9 ppm total chromium, and 5.7 ppm to 2570 ppm total cadmium. Oil and grease were identified in the range of 510 ppm to 2230 ppm, and PCBs were detected below the 25 ppm cleanup threshold. One sample exceeded the TC regulatory level for lead; all other samples were below regulatory levels for lead, chromium, and cadmium.

Twenty-four shallow test borings were also made in the vicinity of the Lead Dross Shed (SWMU 42), Baghouse No. 4 (SWMU 22), the Lead Dust Storage Area (SWMU 35) and the Copper Dust Storage Area (SWMU 36) because aerial photographic analysis had determined that this area may also have received fill materials. The average fill thickness was 2.1 feet in these areas. Six out of 16 samples had total lead concentrations in excess of 500 ppm (in concentrations up to 23,740 ppm), and 16 out of 18 samples contained PCBs (in concentrations up to 40.1 ppm). Only one of these samples exceeded the 25 ppm cleanup level set by NYSDEC for PCBs in industrial soils.

References: 1, 52, 53

Unit Number: 23

Unit Name: Baghouse No. 5 (Photograph No. 23.1)

Unit Description: This unit is a shaker baghouse (made by Pangborn) which is located on the western property boundary, just north of Baghouse No. 3 and adjacent to the Northern Waste Storage Area (SWMU 29). The unit has a capacity of 9,000 cfm (one compartment). This baghouse was originally tied into the Sweat Furnace (SWMU 26), the Copper Furnace (SWMU 27), and the Copper Wire Incinerator (SWMU 25). When these units ceased operations in April 1991, this unit was tied into the Aluminum Crusher (SWMU 19) and the Dust Collector (SWMU 20). This unit replaced the Former Baghouse (SWMU 24) which was destroyed by a fire in 1987.

Particulates are collected in polyethylene-lined cardboard boxes (on wooden pallets) at a single collection point. When a box becomes full, it is covered with plastic and transported to the Copper Dust Storage Area (SWMU 36) near Plant No. 2. The facility estimates that their entire aluminum operations generate approximately 60 tons per month of aluminum dust which is disposed as a hazardous waste (D006, D008). According to facility representatives, this waste may have been stored on trailers or in open piles on facility property prior to the implementation of RCRA, until it could be transported to the DeWitt Landfill.

Table IV-2 lists the baghouse specifications for all facility baghouses.

Date of Start-Up: The unit began operations in early 1988.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: The unit has managed copper and aluminum dust containing cadmium and lead (D006, D008).

Release Controls: All facility baghouses use lime to prevent blinding of bags (if the temperature drops below the dew point) and spontaneous combustion of the collected dust. Particulates are collected in polyethylene lined cardboard boxes (on wooden pallets); the area beneath these collection points is paved, and the boxes are at least partially protected from precipitation by the overlying structure of the Baghouse. In addition, the collection point is equipped with a hood to prevent wind dispersal.

History of Releases: Air emissions are permitted as emission source 00019. The facility's air permit for this unit was renewed in 1989, to expire in 1994.

References: 1, 52, 53

FOIL204852

Unit Number: 24

Unit Name: Former Baghouse (No Photograph taken; unit no longer in existence)

Unit Description: This unit was located north of the Lead Dross Shed and northeast of Baghouse No. 5 (SWMU 23) in Plant No. 2. It included the alkaline baghouse, (capacity of approximately 24,000 cfm), an associated gas cooler, and fans with drives for the designated units. The unit used approximately 800 pounds of lime per day for acid neutralization dry scrubbing, and operated at approximately 250°F. It was constructed to handle air emissions from the Copper Furnace (SWMU 27), the Copper Wire Incinerator (SWMU 25), and the Chip Dryer (SWMU 1). This Baghouse could also accept additional emissions from the Aluminum Crusher (SWMU 19) since the Copper Furnace (SWMU 27) was not used very often.

The unit was destroyed by fire in 1987. Facility representatives did not know the cause of the fire, but it was reportedly contained within the baghouse. After the fire, this unit was dismantled and replaced by Baghouse No. 5 (SWMU 23).

Date of Start-Up: The unit began operations in March 1977 according to the air permit.

Date of Closure: The unit was destroyed by fire in 1987.

Waste Managed: This unit managed copper and aluminum dust containing cadmium and lead (D006, D008).

Release Controls: The release controls for the unit could not be determined from the available file material.

History of Releases:	This unit operated under an NYSDEC air permit until it burned in 1987. Facility representatives have stated that the fire was contained within the unit.
References:	10, 13, 15, 53

FOIL204854

Unit Number:	25
Unit Name:	Copper Wire Incinerator (Photograph No. 25.1)
Unit Description:	This unit is located in the southwest portion of Plant No. 2 under a shed which also covered the Sweat Furnace (SWMU 26). The unit was a batch type dual chamber incinerator which was situated on an intact concrete base, with a maximum capacity of 3000 pounds of insulated wire burned per three hour cycle. The unit was used to remove the plastic or paper insulation from copper wire so that the resulting bare copper could be bailed and sold (the facility has reportedly never melted copper). The incineration of the PVC covered wire produced hydrochloric acid and hydrofluoric acid emissions. In 1974, the facility installed a venturi scrubber to control emissions from this unit. However, this scrubber became corroded and inoperable within approximately one month of installation. Prior to 1974 there were apparently no emission controls associated with this unit. The facility subsequently experimented with an alkaline baghouse and eventually installed the Former Baghouse (SWMU 24) in March 1977. Nevertheless, this unit experienced frequent down time when air emissions could not be properly controlled, and in the early 1980's the facility ceased incineration of PVC insulated wire (PVC insulated wire was sold as received). The facility continued to incinerate paper coated copper wire until this unit ceased operation in April 1991. At the time of the VSI, staining was noted below the doors to the unit.
Date of Start-Up:	The unit began operations in the early 1960's.
Date of Closure:	The unit ceased operations in April 1991.

Waste Managed:	The unit managed plastic and paper insulated copper wire, and generated hydrochloric acid and hydrofluoric acid emissions.
Release Controls:	From 1988 until the unit ceased operation, emissions from this unit were managed by Baghouse No. 5 (SWMU 23). From 1977 to 1987, the air emissions were managed by the Former Baghouse (SWMU 24). At least some of the runoff from the yard surrounding this unit is discharged to Outfall 001 Drainage Area (SWMU 45) through the Sweat Furnace Oil/Water Separator (SWMU 28) located approximately 15 to 20 feet to the west of the incinerator.
History of Releases:	Air emissions are now permitted as emission source 00019. In April and November 1971, the NYSDEC cited that facility for emissions from this unit in excess of allowable limits. A consent agreement was issued compelling Roth Brothers to repair and/or modify all equipment causing uncontrolled air emissions. In addition, Order No. 740 of February 1972 ordered Roth Brothers to cease burning PVC insulated wire until they acquired the necessary air emission control devices to control the hydrochloric acid gas emissions. As stated above, a venturi scrubber was installed in 1974 which malfunctioned after only one month. In November 1976 the facility agreed to replace the malfunctioning scrubber with a limestone injection baghouse.
References:	2, 3, 10, 11, 13, 15, 47, 49, 51, 52, 53

FOIL204856

Unit Number:	26
Unit Name:	Sweat Furnace (Photograph No. 26.1)
Unit Description:	This furnace is located in the southwest portion of Plant No. 2 under a shed which also covers the Copper Wire Incinerator (SWMU 25). It was used on an as needed basis to separate physically joined metals of two different melting points (e.g., iron/aluminum, iron/zinc, or iron/solder). At elevated temperatures, the lower melting metal (e.g., aluminum, zinc) would flow out of one side of the furnace so that the remaining iron could then be raked out the opposite side of the furnace. At the time of the VSI, dark staining was noted on the intact concrete at the base of the unit.
Date of Start-Up:	The unit began operations in the early 1960's.
Date of Closure:	The unit ceased operations in April 1991.
Waste Managed:	This unit melted iron/aluminum, iron/zinc, and iron/solder scrap to separate the two components.
Release Controls:	From 1988 until this unit ceased operations, its emissions were transferred to Baghouse No. 5 (SWMU 23). From 1977 to 1987, air emissions from this unit were directed through the Former Baghouse (SWMU 24). Prior to 1977, there were apparently no controls on emissions from this unit. The Sweat Furnace Oil/Water Separator (SWMU 28) has collected at least some of the runoff from the area surrounding this furnace since 1980. The unit was located beneath a shed with a concrete base.
History of Releases:	Air emissions from this unit (permitted as emission source 00019) were transferred to Baghouse No. 5 (SWMU 23).
References:	51, 52, 53

FOIL204857

Unit Number:	27
Unit Name:	Copper Furnace (Photograph No. 27.1)
Unit Description:	This unit is located just south of the Aluminum Crusher (SWMU 19) in Building No. 3 of Plant No. 2. It is a rotary furnace with an average input of 3000 pounds of insulated wire per hour and an average output of 2000 pounds of copper wire per hour. The unit reportedly operated at 300% excess air and was equipped with a gas-fired afterburner which can operate from 1600°F to 1900°F. (The afterburner was installed in 1974). This unit was used to remove paper and plastic insulation from copper wire so that the resulting bare copper could be bailed and sold (the facility has reportedly never melted copper). The incineration of the PVC covered wire produced hydrochloric acid and hydrofluoric acid emissions. In 1974, the facility installed a venturi scrubber to control emissions from this unit. This scrubber became corroded and inoperable within approximately one month of installation. When the facility's attempts to control these emissions failed, they ceased incineration of PVC insulated wire (PVC insulated wire was sold as received).
Date of Start-Up:	This unit began operations in the early 1960's.
Date of Closure:	Operation of the unit ceased in April 1991.
Waste Managed:	The unit managed plastic and paper insulated copper wire, and generated polyvinyl chloride, hydrochloric acid, and hydrofluoric acid emissions. Non-contact cooling water which circulates through the unit in a cooling jacket was discharged to the Outfall 001 Drainage Area (SWMU 45).

Release Controls: From 1988 until the unit ceased operation, emissions from this unit were managed by Baghouse No. 5 (SWMU 23). From 1977 to 1987, emissions from the burner were managed by the Former Baghouse (SWMU 24). Prior to 1977, there were apparently no emission controls associated with this unit. The unit is located indoors on a concrete base.

History of Releases: Air emissions are permitted by NYSDEC as emission source 00017. In April and November 1971, the NYSDEC cited that facility for emissions from this unit in excess of allowable limits. A consent agreement was issued compelling Roth Brothers to repair and/or modify all equipment causing uncontrolled air emissions.

In addition, Order No. 740 of February 1972 ordered Roth Brothers to cease burning PVC insulated wire until they acquired the necessary air emission control devices to control the hydrochloric acid gas emissions. As stated above, a venturi scrubber was installed in 1974 which malfunctioned after only one month. In November 1976 the facility agreed to replace the malfunctioning scrubber with a limestone injection baghouse.

Non-contact cooling water which circulates through the unit in a cooling jacket was discharged to Outfall 001 Drainage Area (SWMU 45).

References: 2, 3, 9, 10, 11, 13, 15, 37, 45, 47, 49, 51, 52, 53

FOIL204859

Unit Number:	28
Unit Name:	Sweat Furnace Oil/Water Separator (Photograph No. 28.1)
Unit Description:	This steel clad concrete unit (estimated capacity of 80 cubic feet) is located approximately 15 to 20 feet west of the Sweat Furnace (SWMU 26) and the Copper Wire Incinerator (SWMU 25), on the southwestern border of the facility property. It measures approximately 5 feet by 15 feet by 1.5 feet deep and has no lid or cover. This unit was installed to collect oily runoff from the paved area surrounding the Sweat Furnace and the Copper Wire Incinerator (SWMU 25). Any heavier oils and sludges (including mud) collect in the bottom of the unit, and the separated water and lighter oils are allowed to overflow the weirs into the Stormwater Drainage System (SWMU 39) leading to the Outfall 001 Drainage Area (SWMU 45). Accumulated sludges are reportedly collected monthly and transferred to the shed of the Hydraulic Oil/Water Separator (SWMU 6) for drying (to decrease its volume) before further processing there. At the time of the VSI, deteriorating concrete was observed along the sides of the unit. The integrity of the unit could not be assessed because the unit was full of water at the time of the VSI.
Date of Start-Up:	The unit began operations in 1980.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	The unit manages oily runoff from the surrounding area.
Release Controls:	The unit is constructed of concrete, but the integrity of the unit (which was covered by oily wastewaters) could not be determined during the VSI.
History of Releases:	This unit routinely releases oily wastewaters containing light oils to the Outfall 001 Drainage Area (SWMU 45).
References:	53

Unit Number: 29

Unit Name: Northern Waste Storage Area (Photograph Nos. 29.1, 29.2, 29,3, 29.4, 29.5, 29.6, 29.7)

Unit Description: This unit is located on the northern border of the facility property, to the north of Baghouse Nos. 3 and 5 (SWMUs 21 and 23) at Plant No. 2. The unit consists of a partially paved area which covers approximately 80,000 square feet. It manages both piles of waste and raw materials, including used lead and zinc pots, empty drums, scrap aluminum, scrap computer chips, etc., which are stored directly on the ground or on badly cracked concrete. Waste materials are brought to the unit on an as needed basis. Facility representatives were unable to furnish information concerning where and when these wastes were deposited.

An empty drum storage area located in the southern portion of the unit contained approximately 120 drums at the time of the VSI. Many of the drums still contained waste aluminum fines. In addition, a waste pile of unidentifiable material was observed in the northeastern end of the unit (refer to photograph 29.4). The standing water from recent rains had an oily sheen in some locations. In addition, many areas of staining were observed during the VSI.

Date of Start-Up: This unit became operational in approximately 1949 when the facility moved to this site.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: The unit manages a variety of wastes which may contain hazardous wastes or hazardous constituents. These include zinc and lead pots, empty drums, used refractory bricks, waste aluminum fines, aluminum foils, lead slag, and other debris.

Release Controls: Portions of this unit are paved, but the concrete was observed to be heavily cracked throughout the unit at the time of the VSI.

History of Releases: This unit was previously sampled in two locations (J8267, J8268); samples analyzed for metals (total and TCLP) were not found to be hazardous by TCLP.

Test borings taken in August 1990 in the Northern Waste Storage Area identified granular fill materials (gravel, sand and some silt, with up to 20% brick, wood, concrete, asphalt, cinders and scrap metal) to depths of two to six feet; ash was also encountered in one test pit in this unit. The reports of these and other test pits made in the Plant No. 2 area are provided in Attachment F, and the locations of the test pits are identified in Figure II-II.

Of the 18 test pits made in the unpaved portion of this unit, 12 were randomly selected for laboratory analyses. Nine of the 12 samples contained PCBs, but only one sample contained PCBs in excess of the 25 ppm EPA cleanup criterion established by NYSDEC. Four of these samples contained lead in excess of 500 ppm, with lead levels ranging from 2980 ppm to 25,100 ppm. Total chromium analyses ranged from 13.2 ppm to 282.0 ppm, and cadmium was detected in the range of 1.48 ppm to 53.8 ppm. All samples were below TC regulatory levels for cadmium and chromium, but two of the samples were found to be hazardous for lead.

Fifty-three additional shallow borings were made in the paved portions of the Northern Waste Storage Area because analysis of aerial photographs had indicated that this area had also possibly received fill materials in the past. Fill materials were encountered to a depth of 0 to 6.5 feet, with an average fill thickness of 3.1 feet. The composition of this fill material varied, including silt, sand and gravel, cinders, wood fragments, glass, and ash. Fifteen out of 37 samples from these test borings exceeded 500 ppm lead, and 8 of the 37 samples exceeded the TC regulatory level for lead. PCBs were detected in 35 out of 37 samples, with three samples exceeding the 25 ppm cleanup level for industrial soils; the highest level of PCBs detected was 82.7 ppm.

An additional six test borings and two trenches were made in the unpaved area of the Northern Waste Storage Area (SWMU 29). Three of these borings were made in areas where high PCB and TC lead values were encountered in the Phase I investigation, and three were made in native soil areas at the north end of this unit. These latter three borings were converted to groundwater monitoring wells to evaluate water quality north of this unit. Lead was detected in these soil borings in excess of the TC regulatory level, and PCBs were identified in the range of 27.7 ppm to 164 ppm.

References: 53, 55, 56

Unit Number: 30

Unit Name: Waste Oil Tanks (4) (Photograph Nos. 6.1, 30.1, 30.2)

Unit Description: This unit consists of four above ground steel tanks used to store waste oil. Three of these waste oil tanks are located in the maintenance shop of Plant No. 2. The fourth tank is located underneath the shed for the Hydraulic Oil/Water Separator (SWMU 6) and the Hydraulic Oil Empty Drum Storage Area (SWMU 7) in the Aluminum Turnings Storage Yard (SWMU 8). The volumes of the four tanks are shown below:

SWMU No.	Tank Location	Volume
30A	Maintenance Shop	250 gallons
30B	Maintenance Shop	250 gallons
30C	Aluminum Turnings Storage Yard (SWMU 8)	250 gallons
30D	Maintenance Shop	300 gallons

All four tanks collect used hydraulic oils from the servicing of facility vehicles and from the oil/water separators (SWMUs 5, 6, 28, and 32). The largest tank (the black Fornex unit in the Maintenance Shop, SWMU 30D) is equipped with a funnel for manual transfer of oil. Previously these tanks were used for the storage of product oils.

Oil is accumulated in these tanks during the summer months to fuel the Waste Oil Burner (SWMU 31) to heat the maintenance shop in the winter. Waste oils are manually poured into the 250-gallon tanks and then are manually transferred as needed to the Fornex unit (300-gallon tank) which is directly connected to the Waste Oil Burner (SWMU 31).

The facility representative estimated that Roth Brothers generates approximately 200 gallons per month of waste oil, which is burned in the Waste Oil Burner (SWMU 31) during the winter months. Prior to the installation of these tanks in 1989, these waste oils were collected by Safety-Kleen for offsite disposal. The three Maintenance Shop tanks are located on a heavily stained concrete floor beneath the Waste Oil Burner (SWMU 31) with no additional secondary containment. The storage yard tank is located outdoors, adjacent to Plant No. 1, on heavily stained concrete pavement.

Date of Start-Up: The tanks began storing waste oils in 1989; they were previously used to store product oils. Facility representatives could not provide the age of these tanks at the time of the VSI.

Date of Closure: These tanks were active at the time of the VSI.

Waste Managed: The units manage waste oils from facility vehicle maintenance and from the oil/water separators.

Release Controls: The Maintenance Shop tanks are located inside the maintenance shop on a concrete floor. The storage yard tank is located outdoors, on intact concrete pavement. There is no secondary containment for any of these units.

History of Releases: Heavy black staining was observed on the concrete floor under and around the tanks.

References: 53

FOIL204865

Unit Number:	31
Unit Name:	Waste Oil Burner (Photograph Nos. 31.1, 30.2)
Unit Description:	This unit is mounted on the northern wall of the maintenance shop in Plant No. 2. The unit is suspended approximately ten feet above the concrete floor and above three of the Waste Oil Tanks (SWMUs 30A, B and D). Waste oil is withdrawn through a copper tube from the 300-gallon Waste Oil Tank (SWMU 30D) located directly beneath the burner. The unit was installed to heat the maintenance shop in Plant No. 2 by burning waste oils. It burns approximately 1 to 2 gallons of waste oil per hour when in use. The facility representative estimated that Roth Brothers generates approximately 200 gallons per month of waste oil.
Date of Start-Up:	The unit began operations in 1989.
Date of Closure:	The unit was active at the time of the VSI.
Waste Managed:	The unit manages waste hydraulic oils from vehicle maintenance. Some waste oils are also recovered from the facility's Oil/Water Separators (SWMUs 5, 6, 28, and 32).
Release Controls:	The unit is located inside the maintenance shop. The unit is vented to the outside through the roof of the building, apparently through permitted emission point 00019.
History of Releases:	No evidence of release was noted in the available file material or observed at the VSI.
References:	15, 53

FOIL204866

Unit Number:	32
Unit Name:	Steam Cleaning Room (Photograph No. 32.1 and 32.2)
Unit Description:	This unit is located on the northeastern border of Plant No. 2, north of the maintenance shop and two of the three underground storage tanks in the maintenance yard; the third underground storage tank is located immediately opposite the opening to this unit. This room (which measures approximately 12 feet by 20 feet) contains an overhead door, a blind concrete sump (2.5 feet in diameter and 18 inches deep), a small oil/water separator, and a ramp leading to the maintenance yard and the Diesel Pumping Station (SWMU 33). The metal oil/water separator (three to four feet deep and six to eight feet long) is located on the northern wall of the unit. This room is used to steam clean facility vehicles, parts, and used drums. The cleaned drums are stored in the Hydraulic Oil Empty Drum Storage Area (SWMU 7) prior to being sent offsite for reconditioning. Condensed steam which collects in the sump is hand-pumped to the oil/water separator; any collected oils are periodically removed to the Hydraulic Oil/Water Separator (SWMU 6) for further separation, and the remaining water is discharged. Facility representatives did not know how or where this water was released. At the time of the VSI, the concrete base of this unit was pitted and heavily stained.
Date of Start-Up:	The unit began operations in 1983.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	The unit manages steam and steam condensate from washing facility vehicles and parts, which contains oils and grease.
Release Controls:	This unit is located indoors, but the concrete base of this unit was pitted. The overhead door leading to the paved Maintenance Yard is not curbed to

FOIL204867

prevent runoff of steam condensates. Captured water is run through an oil/water separator prior to being discharged.

History of Releases: At the time of the VSI, the concrete base of this unit was pitted and heavily stained.

Three soil samples and one duplicate were taken from test pits in the maintenance yard, which contains the Former USTs (AOC A), the Diesel Pumping Station (SWMU 33), and the Steam Cleaning Room. Lead was detected in concentrations ranging from 1160 ppm to 8460 ppm; total chromium ranged from 84 ppm to 108 ppm, and total cadmium was detected in concentrations ranging from 14.6 ppm to 63.2 ppm. Oil and grease levels in these samples ranged from 3075 ppm to 22,600 ppm. None of these samples exceeded TC regulatory levels for the above metals.

References: 53

Unit Number: 33

Unit Name: Diesel Pumping Station (Photograph Nos. 33.1)

Unit Description: This unit consists of a diesel fuel pump and the surrounding paved area. The pump is used to dispense diesel fuel to facility vehicles. It is located in the maintenance yard on the northeastern border of Plant No. 2, outside the maintenance shop and the Steam Cleaning Room (SWMU 32). The base of this unit is heavily stained and cracked, demonstrating evidence of past releases of diesel fuel to the pavement and underlying soil. Surface drainage from this unit appears to drain to the Stormwater Drainage System (SWMU 39).

Date of Start-Up: This unit has reportedly been in operation since the early 1950's.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: The unit manages spilled diesel fuel from vehicle fueling activities.

Release Controls: At the time of the VSI, The base of this unit was lined with concrete which was cracked and heavily stained.

History of Releases: At the time of the VSI, heavy staining was noted around the diesel fuel pumping station where facility vehicles are fueled, and standing water in the vicinity from morning rains contained an oily sheen in some locations.

Three soil samples and one duplicate were taken from test pits in the maintenance yard, which contains the Former USTs (AOC A), the Diesel Pumping Station, and the Steam Cleaning Room. Lead was detected in concentrations ranging from 1160 ppm to 8460 ppm; total chromium ranged from 84 ppm to 108 ppm, and total cadmium was detected in concentrations ranging from 14.6 ppm to 63.2 ppm. Oil and grease levels in these samples ranged from 3075 ppm to 22,600 ppm. None of these samples exceeded TC regulatory levels for the above metals.

References: 53

FOIL204870

Unit Number:	34
Unit Name:	Ion Exchange Unit (Photograph No. 34.1)
Unit Description:	This unit is located south of the Lead Pots (SWMU 17) and the Lead Furnace (SWMU 16) in Plant No. 2. It consists of a 500-gallon tank and two ion exchange columns (capacity of five gallons per minute each). The unit processed contact cooling water from the lead casting units through a resin filter to capture lead ions. Resins were reportedly changed annually and disposed as hazardous waste. Water from the unit was discharged to the sanitary sewer.
Date of Start-Up:	The unit began operations in 1988.
Date of Closure:	Lead operations at the facility ceased in approximately July 1991.
Waste Managed:	The unit treated contact cooling water from lead casting operations.
Release Controls:	This unit was located indoors on a concrete floor.
History of Releases:	This unit routinely released treated contact cooling water to the city sewer. No other evidence of release was identified in the available file material or observed during the VSI.
References:	53

Unit Number:	35
Unit Name:	Lead Dust Storage Area (Photograph No. 35.1)
Unit Description:	This RCRA-permitted unit is located to the west of Plant No. 2, in the vicinity of the Copper Dust Storage Area (SWMU 36). The unit is a metal storage shed which measures 22 feet by 57 feet, has a concrete floor, and is enclosed on 3 sides with metal siding. The unit has a permitted capacity of 90 boxes (3.5 feet cubed), and 20 55-gallon drums. Lead dust is stored in polyethylene-lined corrugated boxes on wooden pallets. The unit appeared intact at the time of the VSI. According to facility representatives, this waste may have been stored on trailers or in open piles on facility property prior to 1980 until it could be transported to DeWitt Landfill. The facility generated approximately 3000 pounds per day of this dust, which was stored in this unit until it could be sold to a recycler in the United Kingdom. This recycler went out of business in April 1991, and at the time of the VSI, the facility was looking for an alternative method of disposal for this waste.
Date of Start-Up:	The unit reportedly began operations in approximately 1980.
Date of Closure:	The facility ceased lead operations in July 1991. However, at the time of the VSI, the facility was looking for an alternative method of disposal for those dusts generated between April and July 1991.

FOIL204872

Waste Managed:	This unit stored polyethylene-lined boxes of lead dust (K069) from Baghouse No. 4 (SWMU 22); for a short period, it also managed electroplating sludge (F006, purchased for reclamation) which may have contained the following hazardous constituents: cadmium, hexavalent chromium, lead, nickel, and cyanide.
Release Controls:	This unit is located under a metal roof, enclosed on three sides by sheet metal walls, and is situated upon a concrete floor. The boxes of baghouse dust are lined with polyethylene and are stored on pallets.
History of Releases:	No evidence of release was identified in the available file material or observed during the VSI.
References:	1, 8, 14, 24, 51, 52, 53

Unit Number: 36

Unit Name: Copper Dust Storage Area (Photograph No. 36.1)

Unit Description: This RCRA-permitted unit is located west of Plant No. 2, in the vicinity of the Lead Dust Storage Area (SWMU 35) and the Dust Collector (SWMU 20). This unit is a storage room, which measures 35 feet by 49 feet by 17 feet high, has a concrete floor and is enclosed on 3 sides. Dust is stored in polyethylene-lined corrugated boxes measuring 3.5 feet cubed. At the time of the VSI, the unit contained approximately 40 boxes of dust, which were stored on pallets. The unit is permitted to store 144 containers.

Date of Start-Up: The unit has been operational since approximately 1980 or 1981.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: This unit manages lined boxes of aluminum dust (D006, D008) from Baghouse Nos. 3 and 5 (SWMUs 21 and 23). In the past, this unit also managed lead slag (F006) produced from the processing of electroplating sludges. Until the facility ceased its copper operations in April 1991, this area also handled copper dust from Baghouse No. 5 (SWMU 23).

Release Controls: The unit is located on a concrete base covered by a roof and walls on three sides. The boxes of baghouse dust are lined with polyethylene and are stored on pallets.

History of Releases: No evidence of releases was identified in the available file material or observed during the VSI.

References: 1, 6, 14, 24, 52, 53

Unit Number: 37

Unit Name: Laboratory Satellite Accumulation Area (Photograph No. 37.1)

Unit Description: This satellite accumulation area consists of metal containers which are located within the laboratory preparation room, in the main office building of Plant No. 2. Samples of scrap turnings are taken on an hourly basis for quality control measures. Metal containers are used to collect aluminum filings generated during the testing of materials from the Aluminum Furnaces (SWMU 4). These filings are periodically returned to the smelting process.

Date of Start-Up: This unit became active in approximately 1949.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: This unit manages aluminum filings generated during the quality control testing of materials in the Aluminum Furnaces (SWMU 4).

Release Controls: This unit is located indoors within the laboratory area. A hood is situated above the temporary holding area.

History of Releases: No evidence of release was identified in the available file material or observed during the VSI.

References: 53

FOIL204875

Unit Number: 38

Unit Name: Safety-Kleen Degreasers (Photograph No. 38.1)

Unit Description: The facility has three Safety-Kleen Degreasing units (approximately three feet by two feet by two feet). Two units are located in the maintenance areas of Plant No. 2, and one in Plant No. 1. These units are used infrequently to clean metal parts; Safety-Kleen is contracted to service these units (i.e., replace spent solvent with fresh solvent and dispose of the spent solvent offsite) on an as needed basis.

Date of Start-Up: The start-up dates for these units could not be determined from the available file material, and facility representatives were uncertain of the exact date of which Safety-Kleen services began.

Date of Closure: These units were active at the time of the VSI.

Waste Managed: The units manage cleaning solvents and the oil and grease from parts cleaning.

Release Controls: These metal units are located on concrete floors inside the maintenance shops.

History of Releases: No evidence of release was identified in the available file material or observed during the VSI.

References: 53

Unit Number:	39
Unit Name:	Stormwater Drainage System (underground unit, no photograph taken)
Unit Description:	This unit is located throughout the facility, as shown on Figure III-2 . It consists of tiled underground drainage pipes and manholes which collect stormwater runoff from Plant Nos. 1 and 2 as well as from the Inground Oil/Water Separator (SWMU 5), the Hydraulic Oil/Water Separator (SWMU 6), and the Sweat Furnace Oil/Water Separator (SWMU 28). These drainage pipes release to Outfall 001, 002, 003, and 004 Drainage Areas (SWMUs 45 to 48).
Date of Start-Up:	This unit has been active sine 1949.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	This unit manages runoff and sediments contaminated with lead and PCBs.
Release Controls:	This unit is at least partially tiled, but the integrity of this unit is unknown.
History of Releases:	Samples of sediments from three manholes receiving runoff from the Lead Dross Storage Shed (SWMU 42), the area of Baghouse No. 4 (the Lead Baghouse, SWMU 22), and the Lead and Copper Dust Storage Areas (SWMUs 35 and 36) contained total lead concentrations ranging from 26,500 ppm to 41,500 ppm, and TC lead concentrations from 74.5 ppm to 157 ppm. PCBs were also detected in concentrations ranging from 4.58 ppm to 11.95 ppm. These manholes discharge to SPDES Outfall 001 Drainage Area (SWMU 45).
References:	55, 56

FOIL204877

Unit Number:	40
Unit Name:	Lead Particle Settling Unit (Photograph No. 40.1)
Unit Description:	This metal column is located outside the Lead Furnace (SWMU 16) on the west side of Plant No. 2. The unit removed heavy particulates from the emissions being discharged from the Lead Furnace (SWMU 16) to Baghouse No. 4 (SWMU 22). The heavy particulates settle in the column. Periodically these particulates are collected and stored in the Lead Dust Storage Area (SWMU 35) prior to being disposed as hazardous waste along with other lead baghouse dust.
Date of Start-Up:	The unit became operational in approximately 1955.
Date of Closure:	Lead operations at the facility ceased in July 1991.
Waste Managed:	This unit collected heavy particles which settled out of the lead furnace emissions on route to Baghouse No. 4 (SWMU 22).
Release Controls:	The unit is completely self-contained and is situated on a concrete base.
History of Releases:	Air emissions are permitted as emission source 00017. No evidence of release was identified in the available file material or observed during the VSI.
References:	53

Unit Number:	41
Unit Name:	Outfall 003 Waste Pile (Photograph No. 41.1)
Unit Description:	This unit is waste pile that has contained various solid wastes over its history. It is located approximately 15 feet south of the Stormwater Drainage System (SWMU 39) between Plant Nos. 1 and 2. At the time of the VSI, the pile contained scrap wood, scrap metal, and blackened soil on bare ground, but facility personnel appeared to be previously unaware of this waste pile and could not identify its contents during the VSI.
Date of Start-Up:	Facility representatives could not provide any information concerning the time in which this waste pile was first deposited.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	Facility representatives could not identify the wastes in this pile, although scrap metal, wood, and blackened soils were observed.
Release Controls:	No release controls were observed for this unit at the time of the VSI.
History of Releases:	At the time of the VSI, standing water with an oily sheen, and dark staining was observed on the soils in the adjacent Stormwater Drainage System (SWMU 39), but this evidence of release has not been definitively linked to any facility unit.
References:	53

Unit No:	42
Unit Name:	Lead Dross Shed (No Photograph)
Unit Description:	This unit is located in Plant No. 2 to the east of Baghouse Nos. 3, 4, and 5 (SWMUs 21, 22, and 23). It consists of a metal shed (approximately 25 feet deep and 75 feet wide) which is open on one side. The base of the unit is paved. At the time of the VSI, it contained bins of purchased lead dross which were being stored prior to smelting in the Lead Furnace (SWMU 16) or the Lead Tilt Furnace (SWMU 18). This unit was identified through soil and groundwater investigation reports provided by the facility subsequent to the VSI; therefore no photograph was taken.
Date of Start-Up:	This unit has operated since the facility began processing lead in the mid 1950's.
Date of Closure:	This unit was active at the time of the VSI, but the facility ceased lead processing operations in July 1991.
Waste Managed:	This unit manages lead dross which was smelted in the Lead Furnace (SWMU 16) or the Lead Tilt Furnace (SWMU 18).
Release Controls:	This unit is covered by a three-sided metal shed with a concrete base.
History of Releases:	Prior to 1990/1991, Roth Brothers sampled the soil under this unit in one location (J8271); the sample contained 12 ppm lead by TCLP analysis. During the 1990/1991 environmental investigation of plant No. 2, twenty-four shallow test borings were also made in the vicinity of this unit, Baghouse No. 4 (SWMU 22), the Lead Dust Storage Area (SWMU 35) and the Copper Dust Storage Area (SWMU 36) because aerial photographic analysis had determined that this area may have received fill materials. The average fill thickness was 2.1 feet in these areas. Six out of 16 samples had total lead concentrations in excess of 500 ppm (in concentrations up to 23,740 ppm), and 16 out of 18

samples contained PCBs (in concentrations up to 40.1 ppm). Only one of these samples exceeded the NYSDEC 25 ppm cleanup level for PCBs in industrial soils.

References: 53, 55, 56

FOIL204881

Unit No:	43
Unit Name:	Suspected Oil Seep Area (No Photograph)
Unit Description:	This unit is located in the southwest corner of Plant No. 2, south of the Sweat Furnace Oil/Water Separator (SWMU 28). It consists of a drainage ditch where oil seeps were observed until the unit was tiled in the 1980's and made part of the Stormwater Drainage System (SWMU 39). There were reportedly no soil sampling or removal activities associated with the installation of the tile. This unit was identified through soil and groundwater investigation reports provided by the facility subsequent to the VSI; therefore no photograph was taken.
Date of Start-Up:	The start-up date for this unit is unknown.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	This unit manages waste oil from an undetermined source(s).
Release Controls:	The drainage area is now tiled. There are no controls present for the contaminated soil.
History of Releases:	During the 1990/1991 environmental investigation of Plant No. 2, one sample was collected from this unit. The following constituents were identified in this sample: 72.7 ppm total lead, 13.4 ppm total chromium, and 1.36 ppm total cadmium. Oil and grease was detected at 166 ppm. Analyses for PCBs and TC metals (lead, cadmium, and chromium) did not exceed regulatory levels.
References:	55, 56

Unit No:	44
Unit Name:	Former Substation (No Photograph)
Unit Description:	This unit was located immediately south of the existing substation between Plant Nos. 1 and 2. It consisted of a power substation of unknown construction. The soil underground and around the location of this unit is contaminated with oil and grease. The structure had been completely demolished prior to the VSI. This unit was identified through soil and groundwater investigation reports provided by the facility subsequent to the VSI; therefore no photograph was taken.
Date of Start-Up:	The facility has operated a substation to supply its own power since the early history of the site.
Date of Closure:	This unit was reportedly dismantled when the facility installed a new substation in 1990.
Waste Managed:	This unit manages soil contaminated with oil and grease. The source of this contamination has not been identified.
Release Controls:	No release controls are associated with this unit.
History of Releases:	During the 1990/1991 environmental investigations of Plant Nos. 1 and 2, one soil sample was taken from this unit. No TC regulatory levels for lead cadmium or chromium were exceeded, but the sample contained 28,000 ppm oil and grease. PCBs levels were identified in a concentration of 0.558 ppm.
References:	55, 56

Unit Number:	45
Unit Name:	Outfall 001 Drainage Area (Photograph Nos. 45.1 and 45.2)
Unit Description:	The unit is located near Plant No. 2, northwest of Baghouse No. 5 (SWMU 23). The unit is a permitted outfall under the facility's SPDES permit and receives up to an estimated 43,000 gallons per day of facility wastewater plus stormwater runoff. The unit discharges to an unnamed tributary to the South Branch of Ley Creek. At the time of the VSI, the area surrounding the outfall was filled with trash and scrap metal. The water had an oily sheen and there was a strong petroleum odor at the unit. The soil around the area was badly stained.
Date of Start-Up:	This unit began operating in approximately 1949 when the facility first moved to this site.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	This outfall received non-contact (jacketed) cooling water from the Lead Furnace (SWMU 16) and the Copper Furnace (SWMU 27), as well as water released from the oil/water separators (SWMUs 5, 6, and 28) and stormwater runoff via the Stormwater Drainage System (SWMU 39).
Release Controls:	This unit is monitored under the facility's SPDES permit. It is designed to release to surface water.
History of Releases:	Staining of soils was noted in the file material and at the time of the VSI. PCB contamination has also been detected in the discharge from this outfall in 1988. The source of these PCBs is still unknown. A November 15, 1984 NYSDEC Reconnaissance Visit report noted "obviously contaminated water quality

and surrounding land surface near Outfalls 001, 003 and 004...". Outfall 001 had limit excursions of pH (minimum and maximum), lead, antimony, zinc and copper between July and September 1984. The follow-up inspection on November 26, 1984 noted black oily waste being "wetland treated" before reaching the sampling location.

Prior to 1990/1991, sediments from the unnamed tributary to Ley Creek running from this unit was sampled in two locations (J8267, J8266) at the northwest corner of Plant No. 2; samples analyzed for semi-volatiles, total metals and TCLP metals identified 400 ppm and 520 ppm benzo(a)anthracene (estimated); 12,000 ppm and 25,000 ppm bis(2-ethylhexyl phthalate); and 740 ppm benzo(a)pyrene (estimated).

During the 1990/1991 environmental investigations of Plant Nos. 1 and 2, five samples were taken from sediments in this unit; samples consisted of dark brown oil-stained organic matter with a petroleum odor, and an oily sheen formed on the water when sediments in the unit were disturbed. Total lead concentrations ranged from 384 ppm to 2060 ppm; these analyses detected 11.4 ppm to 22.6 ppm total chromium, and 7.9 ppm to 15.5 ppm total cadmium. Oil and grease were identified in the range of 641 ppm to 5750 ppm, and PCBs were detected up to 1.330 ppm. No samples contained lead, cadmium, or chromium in excess of TC regulatory levels.

References: 9, 16, 21, 22, 25, 26, 35, 36, 37, 38, 39, 41, 44, 53

Unit Number: 46

Unit Name: Outfall 002 Drainage Area

Unit Description: This unit is located east of the Northern Waste Storage Area (SWMU 29) along the Oberdorfer railroad right-of-way. It consists of the unlined drainage area from the facility's SPDES Outfall 002, but it also receives drainage from the Outfall 003 Drainage Area (SWMU 47) to the south.

Date of Start-Up: This unit became operational in 1949.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: This unit manages soils contaminated with metals, PCBs, and oil and grease.

Release Controls: This unit is monitored under the facility's SPDES permit.

History of Releases: Prior to 1990/1991 the drainage ditch from this unit was sampled in three locations (J8272, J8273, J8274); samples analyzed for semi-volatiles, metals (total and TCLP), PCBs, and oil and grease identified the following: 17,000 ppm benzo(a)anthracene, 4.0 ppm Aroclor 1016/1242, and 100,000 ppm oil and grease. Metals were not detected above TCLP regulatory levels.

During the 1990/1991 environmental investigations of Plant Nos. 1 and 2, five samples were taken from sediments in this unit; samples consisted of dark brown oil-stained organic matter with a petroleum odor, and an oily sheen formed on the water when sediments in the unit were disturbed. Total lead concentrations ranged from 384 ppm to 2060 ppm; these analyses detected 11.4 ppm to 22.6 ppm total chromium, and 7.9 ppm to 15.5 ppm total cadmium. Oil and grease were identified in the range of 641 ppm to 5750 ppm, and PCBs were detected up to 1.330 ppm. No samples contained lead, cadmium, or chromium in excess of TC regulatory levels.

References: 9, 50, 53, 55, 56

Unit Number: 47

Unit Name: Outfall 003 Drainage Area (Photograph No. 39.1)

Unit Description: This drainage area is located east of Plant No. 2 and the Northern Waste Storage Area (SWMU 29), and south of Outfall 003. It consists of an area of soil underneath the SPDES permitted Outfall 003. The Outfall 003 Waste Pile (SWMU 41) is adjacent to this area. At the time of the VSI, this unit contained standing water with an oily sheen, and dark staining was observed on the soils in this area. The unit appears to have received stormwater runoff via the Stormwater Drainage System (SWMU 39) from the maintenance yard, which contains the Diesel Pumping Station (SWMU 33), the Steam Cleaning Room (SWMU 32), and the Former USTs (AOC A).

Date of Start-Up: The unit began operations in approximately 1949.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: This area received contact and non-contact cooling water from the facility's aluminum smelting processes, and runoff from the surrounding areas possibly contaminated with oils.

Release Controls: Discharges from Outfall 003 are monitored under the facility's SPDES permit. In December 1986, Outfall 003 was combined with Outfall 002 to eliminate redundant sampling.

History of Releases: At the time of the VSI, this unit contained standing water with an oily sheen, and dark staining was observed on the soils in this area. A November 15, 1984 NYSDEC Reconnaissance Visit report noted "obviously contaminated water quality and surrounding land surface near Outfalls 001, 003 and 004...". Outfall 003 was reported as having limitation excursions of oil and grease, and antimony between July and September

1984. A follow-up inspection (November 26, 1984) of the area noted absorbent pads containing waste product in the manhole at Outfall 003.

References: 29, 36, 37, 38, 39, 41, 44, 53

FOIL204888

Unit No.	48
Unit Name:	Outfall 004 Drainage Area (Photograph No. 48.1, 48.2)
Unit Description:	This outfall is located approximately 100 feet east of Plant No. 1 (in the driveway to the facility). The unit is an area of soil under a permitted outfall under the facility's SPDES permit which receives stormwater runoff from Plant No. 1. It discharges via storm drains to an underground storm sewer leading to the South Branch of Ley Creek. In addition to facility property, this outfall receives runoff from the Oberdorfer fill area on the adjacent property.
Date of Start-Up:	This unit became operational in approximately 1949.
Date of Closure:	This unit was active at the time of the VSI.
Waste Managed:	The outfall receives runoff from the Aluminum Turnings Storage Yard (SWMU 8), the Northeast Drainage Ditch (SWMU 13), Plant No. 1, and the adjacent Oberdorfer fill area.
Release Controls:	Releases from this unit are monitored under the facility's SPDES permit.
History of Releases:	PCB contamination was first detected in May 1984 at 12 ppb. PCBs have been detected in 1986, 1987, and 1988. However, the facility has reportedly not detected a PCB violation of their SPDES permit (PCB limit of 1 ppb until 1990, when the limit was reduced to 67 ppb) since the repair of a storm sewer manhole in 1988. The manhole was approximately 150 to 175 feet east of Outfall 004 Drainage Area (SWMU 48). The facility now monitors monthly for PCBs; originally the permitted limit was 1 ppb, but in 1990, this limit was revised to 67 ppb. This new standard is still the subject of discussions between the NYSDEC and the facility. A November 15, 1984 NYSDEC Reconnaissance Visit report noted "obviously contaminated water quality

and surrounding land surface near Outfalls 001, 003 and 004...". Outfall 004 had limit excursions of oil and grease, sulfite, antimony, and zinc between July and September 1984.

References: 5, 9, 16, 22, 24, 25, 26, 29, 35, 37, 38, 39, 41, 42, 44, 53

FOIL204890

Unit No:	AOC A
Unit Name:	Former USTs (3) (Photograph A.1)
Unit Description:	These units were located in the Maintenance Yard on the northeastern border of Plant No. 2. These tanks included one 2000-gallon diesel fuel tank, one 2000-gallon fuel gas tank, and one 1000-gallon gasoline tank. The construction of these tanks is unknown. The replacements for the fuel gas and gasoline tanks are located in the same positions as the original tanks, but the new diesel fuel tank was moved approximately 100 feet north within the maintenance yard. The fuel in this tank is dispensed at the Diesel Pumping Station (SWMU 33).
Date of Start-Up:	These units were installed in the early 1950's.
Date of Closure:	These units were replaced in the early 1980's.
Waste Managed:	These units managed petroleum products.
Release Controls:	There were no known secondary release controls for these units.
History of Releases:	No soil sampling was reportedly conducted when the tanks were removed. Three soil borings (B9, B10, and B11) taken in 1989 in the vicinity of the Former USTs (AOC A) contained less than 10 mg/kg kerosene and fuel oil and did not contain detectable levels of gasoline and lubricating oils. Total PCBs were detected at less than 2 mg/kg. The locations of these soil borings and the data from these analyses are provided in Attachment E.
References:	53, 54

Unit No: AOC B

Unit Name: Lime Ash Bag Storage Area (Photograph No. B.1)

Unit Description: This unit is located in the paved area to the north of Baghouse No. 4 (SWMU 22). At the time of the VSI, it consisted of five metal bins (capacity of approximately 32 cubic feet each) containing ashes. Product lime is added to all facility baghouses to prevent blinding of bags (if the temperature of the baghouse drops below the dew point) and spontaneous combustion of the baghouse dusts. When empty, these lime bags are reportedly burned in bins, and the accumulated ashes are periodically transferred to the facility's dumpsters for disposal in a nonhazardous landfill. The facility used the DeWitt Landfill until it was closed in 1988. Subsequently, the facility has disposed of nonhazardous wastes at the Orleans County Landfill in western New York and the Modern Landfill in Buffalo, New York.

Date of Start-Up: This unit became operational in approximately 1973 when the facility's first baghouses were installed.

Date of Closure: This unit was active at the time of the VSI.

Waste Managed: This unit manages ashes from the burning of the bags which contained fresh lime for the baghouses.

Release Controls: These metal bins were located on a paved surface; however the bins were not covered to prevent wind dispersal of the ash.

History of Releases: No evidence of release was identified in the available file material or observed at the time of the VSI.

References: 53

V. References

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5. Letter from S. Lackey, NYSDEC, to T. Male, NYSDEC, re: PCB's in SPDES Discharge at the Roth Brothers facility, August 10, 1988.

6. Letter from L. Roth, Roth Brothers, to R. Walka, USEPA Region II, re: Information regarding potential hazardous waste and constituent releases from SWMUs, 1985.

7. Letter from G. Heitzman, NYSDEC, to Neal Schwartz, Roth Brothers, re: Status of Roth Brothers under RCRA, July 25, 1985.

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10. Letter from S. Burdick, NYSDEC, to H. Mamat, Roth Brothers, re: Plans for proposed pollution control devices at Roth Brothers, November 26, 1975.

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12. Letter from R. Torba, NYSDEC, to N. Schwartz, Roth Brothers, re: Hazardous waste permit - Part 373, March 20, 1987.

13. Letter from Mr. Lauber, NYSDEC, to Mr. Surgan, NYSDEC, re: Investigation of Roth Brothers facility, December 5, 1984.

FOIL204893

14. Letter from Mr. Wazenkewitz, NYSDEC, to Ms. Massimino, USEPA, re: RCRA Part B inspection at Roth Brothers, October 17, 1984.

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18. Roth Brothers Smelting, Neal Schwartz correspondence to New York State Department of Environmental Conservation Re: The Generator Annual Report for Roth Brothers. March 1, 1990.

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26. New York State Department of Environmental Conservation, Joanne L. March correspondence to Roth Brothers Smelting, Neal Schwartz, Re: Modification of Pollutant Discharge Elimination System Permit for Roth Brothers Smelting, UPA #70-88-0036, SPDES #NY 0110311. May 10, 1988.

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FOIL204897

VI. Summary of Conclusions and Suggested Further Actions

This section presents the conclusions and suggested further actions for the Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) identified during the PR and VSI of Roth Brothers Smelting Corporation. For each unit, the potential for release to soils and groundwater, surface water, and air are assessed, as well as the potential for subsurface gas generation. For the purposes of this report, a high potential for release was assigned in cases where it was documented that a release occurred, visual evidence of release, improper or inadequate secondary containment, or other indications that releases to soil, groundwater, surface water, or air may have occurred. A moderate release potential was assigned in cases where there may be a release depending on the volume. A low potential for release was assigned in cases where units are inside buildings, are in good condition, have appropriate release controls, or do not manage hazardous constituents. In cases where the release potential is dependent on the integrity of the unit, and the integrity could not be assessed as part of this investigation, an unknown assessment has been indicated in the conclusions for this unit, and integrity testing has been suggested.

1. Unit Name: Chip Dryer

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit. The unit is located inside a building with a concrete floor.

Surface Water: There is a low potential for release to surface water from this unit. The unit is located inside a building with a concrete floor.

Air: There is a low potential for release to air from this unit. Air emissions from the unit are routed to Baghouse No. 2 (SWMU 3) prior to release.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit. The unit is located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION: No further actions are suggested at this time other than continued compliance with air emission control standards.

FOIL204899

2. Unit Name: Baghouse No. 1

3. Unit Name: Baghouse No. 2

CONCLUSIONS:

Soil/Groundwater: There is a low potential for release to soil/groundwater from these units. The units are located on top of or inside a building and have concrete bases.

Surface Water: There is a low potential for release to surface water from this/these units. The unit is located on top of a building with a metal base.

Air: There is a low potential for release of hazardous constituents to air from these units as long as they are operating correctly and are well-maintained.

Subsurface Gas: There is a low potential for subsurface gas generation from these units. The units are located on top of or inside a building with concrete bases.

SUGGESTED FURTHER ACTION:

No further actions are suggested at this time other than continued compliance with air emission control standards.

FOIL204900

4. Unit Name: Aluminum Furnaces (3)

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from these units. The units are located inside buildings with concrete floors.

Surface Water: There is a low potential for release to surface water from these units. The units are located inside buildings with concrete floors.

Air: There is a moderate potential for release to air from these units due to apparent malfunctions of the exhaust collection system.

Subsurface Gas: There is a low potential for subsurface gas generation from these units. The units are located inside buildings with concrete floors.

SUGGESTED FURTHER ACTION: It is suggested that the exhaust collection system be inspected and tested for efficiency and modified as necessary to avoid future uncontrolled releases to the air.

✓

5. Unit Name: Inground Oil/Water Separator
6. Unit Name: Hydraulic Oil/Water Separator

CONCLUSIONS: Soil/Groundwater: There is an unknown potential for release to soil/groundwater from these units since the integrity of the inground sections could not be accurately assessed during the VSI.

Surface Water: There is a moderate potential for release to surface water from these units because these units release to the Stormwater Drainage System (SWMU 39) which then releases to surface water.

Air: There is a low potential for release to air from these units due to the nature of the wastes handled.

Subsurface Gas: There is a low potential for subsurface gas generation from these units due to the nature of the wastes handled.

SUGGESTED FURTHER ACTION: It is suggested that the integrity of these units be assessed. The units should be drained and visually inspected for cracks. If cracks are observed, soil samples should be taken from soil areas behind or beneath the cracks and analyzed for Appendix IX metals, volatiles, and semi-volatiles.

FOIL204902

7. Unit Name: Hydraulic Oil Empty Drum Storage Area

CONCLUSIONS: Soil/Groundwater: There is a moderate potential for release to soil/groundwater from this unit. The concrete floor under the unit was cracked and heavily stained.

Surface Water: There is a moderate potential for release to surface water from this unit. Wastes managed by the unit could potentially migrate to the Stormwater Drainage System (SWMU 39) and be discharged to surface water.

Air: There is a low potential for release to air from this unit due to the nature of the wastes handled.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the waste handled.

SUGGESTED FURTHER ACTION: It is suggested that this unit be investigated as part of the RFI for the adjacent Aluminum Turnings Storage Yard (SWMU 8).

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8. <u>Unit Name</u>: Aluminum Turnings Storage Yard

<u>CONCLUSIONS</u>: <u>Soil/Groundwater</u>: There is a high potential for release to soil/groundwater from this unit. The concrete base was cracked and heavily stained, and contamination of underlying and surrounding soils has been documented.

<u>Surface Water</u>: There is a moderate potential for release to surface water from this unit. Runoff from this unit is directed to the Outfall 004 Drainage Area (SWMU 48) which releases to a storm sewer to the South Branch of Ley Creek.

<u>Air</u>: There is a low potential for release to air from this unit due to the nature of the wastes managed.

<u>Subsurface Gas</u>: There is a low potential for subsurface gas generation from this unit due to the nature of the waste handled.

<u>SUGGESTED FURTHER ACTION</u>: An RFI is suggested for this unit to determine the nature and extent of soil and groundwater contamination.

9. Unit Name: Loading Station for Fuel Tanks

CONCLUSIONS: Soil/Groundwater: There is a moderate potential for release to soil/groundwater from this unit. Since the coupling point is outside the secondary containment, spillage can be carried via stormwater runoff to uncovered soils near the area. Staining was noted in this uncovered area during the VSI.

Surface Water: There is a low potential for release to surface water from this unit due to the distance to the nearest surface body of water.

Air: There is a low potential for release to air from this unit due to the nature of the wastes handled.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes handled.

SUGGESTED FURTHER ACTION: It is suggested that confirmatory soil sampling be conducted in stained areas in the vicinity of the coupling point to these fuel storage tanks to determine if a release of hazardous constituents has occurred. Samples should be analyzed for Appendix IX, volatiles, semi-volatiles, and metals.

10. Unit Name: Secondary Containment for Fuel Tanks

CONCLUSIONS: Soil/Groundwater: There is a moderate potential for release to soil/groundwater from this unit. The unit discharges stormwater, which appeared to be contaminated during the VSI, to a concrete area. However, no curbing is present to preventany contaminated runoff from releasing to nearby soil.

Surface Water: There is a low potential for release to surface water from this unit due to the distance to the nearest body of water.

Air: There is a low potential for release to air from this unit due to the nature of the wastes handled.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes handled.

SUGGESTED FURTHER ACTION: It is suggested that confirmatory soil sampling be conducted in the area adjacent to the concrete. Samples should be analyzed for Appendix IX volatiles, semi-volatiles, and metals. It is also suggested that the facility cease discharging any collected liquid onto the adjacent property without appropriate testing and that the collected liquid be routed to one of the existing oil/water separators.

11. Unit Name: Aluminum Dust Storage Area

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit. The unit is located inside a building with a concrete floor.

Surface Water: There is a low potential for release to surface water from this unit. The unit is located inside a building with a concrete floor.

Air: There is a low potential for release to air from this unit. The unit is located inside a building with a concrete floor.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes handled. In addition, the unit is located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION: No further actions are suggested for this unit at this time.

12. Unit Name: Waste Aluminum Fines Storage Area

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit. The unit is contained by three walls, is situated on a concrete floor, and manages only solid material.

Surface Water: There is a low potential for release to surface water from this unit. The unit is contained by three walls, is situated on a concrete floor, and manages only solid material.

Air: There is a low potential for release to air from this unit due to the nature of the wastes handled.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit because the unit is contained by three walls, is situated on a concrete floor, and manages only solid material.

SUGGESTED FURTHER ACTION: No further actions are suggested for the unit at this time.

FOIL204908

13. Unit Name: Northeast Drainage Ditch

CONCLUSIONS: Soil/Groundwater: There is a moderate potential for release to soil/groundwater from this unit due to the staining of the soils as noted at the VSI.

Surface Water: There is a moderate potential for release to surface water from this unit, depending upon the nature of the wastes being released.

Air: There is a low potential for release to air from this unit due to the nature of the wastes being managed.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes being managed.

SUGGESTED FURTHER ACTION: It is suggested that RCRA Phase II soil sampling be conducted at this unit to determine whether a release of hazardous constituents has occurred. Soil samples should be taken in stained areas and analyzed for Appendix IX volatiles, semi-volatiles, and metals.

FOIL204909

14. Unit Name: Zamac Furnace

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit because it is located inside a building with a concrete floor.

Surface Water: The potential for release to surface water from this unit is moderate because contact cooling water from the unit is routed to the facility's SPDES Outfall 005 via the Stormwater Drainage System (SWMU 39).

Air: The potential for release to air from this unit is low because air emissions are routed to Baghouse No. 2 (SWMU 3).

Subsurface Gas: The potential for subsurface gas generation is also low because the unit is located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION: No further actions are suggested for this unit at this time.

15. Unit Name: Zinc Pot

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from these units. The units are located inside a building with a concrete floor.

Surface Water: The potential for release to surface water from this unit is moderate because contact cooling water from the unit is routed to the facility's SPDES Outfall 005 via the Stormwater Drainage System (SWMU 39).

Air: The potential for release to air from this unit is low because air emissions are routed to Baghouse No. 2 (SWMU 3).

Subsurface Gas: There is a low potential for subsurface gas generation from these units due to the nature of the wastes managed. In addition the unit is located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION: No further actions are suggested for these units at this time.

16. Unit Name: Lead Furnace
17. Unit Name: Lead Pots (4)

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from these units. The units are located inside a building with a concrete floor.

Surface Water: There is a low potential for release to surface water from these units. Only non-contact cooling waters released by the Lead Furnace (SWMU 16) and contact cooling waters released by the Lead Pots (SWMU 17) were treated in the Ion Exchange Unit (SWMU 34) prior to the discharge to the city sewer.

Air: There is a low potential for release to air from these units. The units are located indoors and air emissions were routed to Baghouse No. 4 (SWMU 22).

Subsurface Gas: There is a low potential for subsurface gas generation from these units due to the nature of the wastes managed. In addition, the units are located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION: No further actions are suggested for these units at this time.

18. Unit Name: Lead Tilt Furnace

CONCLUSIONS: Soil/Groundwater: The potential for release to soil/groundwater from this unit is low because it is located inside a building with a concrete floor.

Surface Water: The potential for release to surface water from this unit is low because contact cooling waters were treated in the Ion Exchange Unit (SWMU 34) prior to being discharged to the city sewer.

Air: The potential for release to air from this unit is low because it is located indoors and air emissions were routed to Baghouse No. 4 (SWMU 22).

Subsurface Gas: The potential for subsurface gas generation from this unit is low due to the nature of the wastes managed. In addition, the unit is located inside a building with a concrete floor.

SUGGESTED FURTHER ACTIONS: No further actions are suggested for this unit at this time.

FOIL204913

19. Unit Name: Aluminum Crusher

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit. The unit is located inside a building with a concrete floor.

Surface Water: There is a low potential for release to surface water from this unit. The unit is located inside a building with a concrete floor.

Air: There is a low potential for release to air from this unit. Air emissions from this unit are routed through an afterburner to the Dust Collector (SWMU 20), Baghouse No. 3 (SWMU 21), and Baghouse No. 5 (SWMU 23).

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes managed. In addition, the unit is located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION: No further actions are suggested for the unit at this time.

20. Unit Name: Dust Collector

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit since the unit is located on a concrete base.

Surface Water: There is a low potential for release to surface water from this unit due to the distance to the nearest body of water.

Air: There is a low potential for release to air from this unit. Air emissions from the unit are routed to Baghouse No. 5 (SWMU 23), however, the collection point for this unit does not have a containment structure to prevent wind dispersal.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes managed.

SUGGESTED FURTHER ACTION: It is suggested that the facility attach a hood to the discharge point from this unit to prevent wind dispersal of the particulates being collected in the corrugated box.

21. Unit Name: Baghouse No. 3

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit due to the nature of the wastes handled. In addition, the units were situated on paved areas.

Surface Water: There is a low potential for release to surface water from this unit. The units are situated on paved areas and far away from any surface body of water.

Air: There is a low potential for release to air from this unit as long as they are operating correctly and are well-maintained.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes managed. In addition, the units are located on paved areas.

SUGGESTED FURTHER ACTION: No further actions are suggested for this unit at this time, other than continued compliance with the air permit limitations for each.

22. Unit Name: Baghouse No. 4

CONCLUSIONS: Soil/Groundwater: There is a moderate potential for release to soil/groundwater from this unit because it could potentially be a source of the high industrial lead levels in soils that have been identified in the vicinity.

Surface Water: There is a moderate potential for release to surface water from this unit because of its close proximity to the Outfall 001 Drainage Area (SWMU 45).

Air: There is a low potential for release to air from this unit as long as it is operating correctly and is well-maintained.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes managed.

SUGGESTED FURTHER ACTION: It is suggested that the area where this unit is located be included in the RFI for the Lead Dross Shed (SWMU 42) and other units in this vicinity to determine if it is a source of the high industrial lead levels detected in soils in this area.

23. Unit Name: Baghouse No. 5

CONCLUSIONS: *Soil/Groundwater*: There is a low potential for release to soil/groundwater from this unit due to the nature of the wastes handled. In addition, the units were situated on paved areas.

Surface Water: There is a low potential for release to surface water from this unit. The units are situated on paved areas and far away from any surface body of water.

Air: There is a low potential for release of hazardous constituents to air from this unit as long as they are operating correctly and are well-maintained.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes managed. In addition, the units are located on paved areas.

SUGGESTED FURTHER ACTION: No further actions are suggested for this unit at this time, other than continued compliance with the air permit limitations for each.

24. Unit Name: Former Baghouse

CONCLUSIONS: Soil/Groundwater: The potential for release to soil/groundwater from this unit is low due to the nature of the wastes handled. In addition, the unit was located on a paved area.

Surface Water: The potential for release to surface water from this unit is low because it is situated on a paved area which is distant from any surface water.

Air: There was a high potential for release to air while the unit was destroyed by fire. However, the current potential for release to air is low because the unit is no longer present.

Subsurface Gas: The potential for subsurface gas generation from this unit is low due to the nature of the wastes managed. In addition, the unit was located on a paved area.

SUGGESTED FURTHER ACTIONS: No further actions are suggested for this unit at this time.

25. Unit Name: Copper Wire Incinerator
26. Unit Name: Sweat Furnace

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from these units due to the nature of the wastes managed (coated copper wire).

Surface Water: There is a low potential for release to surface water from these units due to the nature of the wastes handled.

Air: There is a low potential for release to air from these units. Both units had air emissions routed to the Former Baghouse (SWMU 24), then to Baghouse No. 5 (SWMU 23). Although they have had problems in the past with air emissions, the units are no longer active.

Subsurface Gas: There is a low potential for subsurface gas generation from these units due to the nature of the wastes managed.

SUGGESTED FURTHER ACTION: No further actions are suggested for these units at this time.

27. Unit Name: Copper Furnace

CONCLUSIONS: Soil/Groundwater: The potential for release to soil/groundwater from this unit is low because it is located inside a building with a concrete floor.

Surface Water: The potential for release to surface water from this unit is low because it is located inside a building with a concrete floor.

Air: The potential for release to air from this unit is low because the incineration of PVC insulated wire has ceased and other air emissions were directed through baghouses.

Subsurface Gas: The potential for subsurface gas generation from this unit is low due to the nature of the wastes managed. In addition, the unit is located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION: No further actions are suggested for the unit at this time.

28. Unit Name: Sweat Furnace Oil/Water Separator

CONCLUSIONS: Soil/Groundwater: There is an unknown potential for release to soil/groundwater from these units because the integrity of the inground sections could not be accurately assessed during the VSI.

Surface Water: There is a moderate potential for release to surface water from this unit because it releases potentially oily wastewaters to Outfall 001 Drainage Area (SWMU 45) via the Stormwater Drainage System (SWMU 39).

Air: There is a low potential for release to air from this unit due to the nature of the wastes managed.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes managed.

SUGGESTED FURTHER ACTION: It is suggested that the integrity of this unit be assessed. The unit should be drained and visually inspected for cracks. If cracks are observed, soil samples should be taken from soil areas behind or beneath the cracks and analyzed for Appendix IX volatiles, semi-volatiles, and metals.

29. Unit Name: Northern Waste Storage Area

CONCLUSIONS: Soil/Groundwater: There is a high potential for release to soil/groundwater from this unit. Waste piles were stored directly on the ground as well as on concrete in very poor condition. Heavy staining was observed throughout the unit during the VSI, and lead and PCB soil contamination under and adjacent to it has been documented.

Surface Water: There is a moderate potential for release to surface water from this unit. Standing water in the unit was observed to have an oily sheen and staining was observed on soils. Runoff from this unit is released to the Stormwater Drainage System (SWMU 39) or the soil underlying and surrounding the unit. This unit is also in close proximity to the Outfall 002 Drainage Area (SWMU 46).

Air: There is a low potential for release to air from this unit due to the nature of the wastes managed.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit because the wastes were managed above the ground surface.

SUGGESTED FURTHER ACTION: This unit has been suggested for an RFI.

30. Unit Name: Waste Oil Tanks (4)

CONCLUSIONS:

Soil/Groundwater: There is a low potential for release to soil/groundwater from these units. The units are located inside a building with a concrete floor.

Surface Water: There is a low potential for release to surface water from these units. The units are located inside a building with a concrete floor.

Air: There is a low potential for release to air from these units. The units are located inside a building with a concrete floor.

Subsurface Gas: There is a low potential for subsurface gas generation from these units. The units are located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION:

No further actions are suggested for the unit at this time. The facility should continue to comply with 40 CFR Part 266 Subpart E regarding the burning of used oil for energy recovery.

FOIL204924

31. Unit Name: Waste Oil Burner

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit. The unit is located inside a building suspended above a concrete floor.

Surface Water: There is a low potential for release to surface water from this unit. The unit is located inside a building suspended above a concrete floor.

Air: There is a moderate potential for release to air from this unit. Although it appears that this unit is permitted as emission source 00019, analytical data of the emissions could not be found in the available file material.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit. The unit is located inside a building suspended above a concrete floor.

SUGGESTED FURTHER ACTION: The facility should verify that no airborne hazardous constituents are being emitted by this unit. If such verification cannot be produced, the facility should implement emission controls to prevent the release of airborne hazardous constituents. The facility should also continue to comply with 40 CFR Part 266 Subpart E regarding the burning of used oil for energy recovery.

32. Unit Name: Steam Cleaning Room
33. Unit Name: Diesel Pumping Station

CONCLUSIONS: Soil/Groundwater: There is a high potential for release to soil/groundwater from oily condensates and potentially contaminated runoff. At the time of the VSI, heavy staining was observed in the Steam Cleaning Room and throughout the maintenance yard, especially around the Diesel Pumping Station (SWMU 33). Soil contamination by lead, chromium, cadmium, and oil and grease have been documented in the vicinity of these units.

Surface Water: There is a moderate potential for release to surface water from these units since the drainage appears to run towards the Stormwater Drainage System (SWMU 39).

Air: There is a low potential for release to air from these units due to the nature of the wastes managed.

Subsurface Gas: There is a low potential for subsurface gas generation from these units due to the nature of the wastes managed.

SUGGESTED FURTHER ACTION: It is suggested that an RFI be conducted in the maintenance yard containing both of these units, as well as the Former USTs (AOC A) to determine the nature and extent of soil and groundwater contamination.

FOIL204926

34. Unit Name: Ion Exchange Unit

CONCLUSIONS: Soil/Groundwater: The potential for release to soil/groundwater from this unit is low because it is located inside a building with a concrete floor.

Surface Water: The potential for release to surface water from this unit is low because it is located inside a building with a concrete floor and it discharged directly to the city sewer.

Air: The potential for release to air from this unit is low because it is located inside a building with a concrete floor.

Subsurface Gas: The potential for subsurface gas generation from this unit is low because it is located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION: No further actions are suggested for the unit at this time.

35. Unit Name: Lead Dust Storage Area
36. Unit Name: Copper Dust Storage Area

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from these units. The units are located inside buildings with concrete floors.

Surface Water: There is a low potential for release to surface water from these units. The units are located inside buildings with concrete floors.

Air: There is a low potential for release to air from these units. The units are located inside buildings with concrete floors.

Subsurface Gas: There is a low potential for subsurface gas generation from these units. The units are located inside buildings with concrete floors.

SUGGESTED FURTHER ACTION: No further actions are suggested for these units at this time.

FOIL204928

37. Unit Name: Laboratory Satellite Accumulation Area

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit. The unit is located inside a building with a concrete floor.

Surface Water: There is a low potential for release to surface water from this unit. The unit is located inside a building with a concrete floor.

Air: There is a low potential for release to air from this unit. The unit is located inside a building with a concrete floor.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit. The unit is located inside a building with a concrete floor.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

38. Unit Name: Safety-Kleen Degreasers

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from these units. The units are located inside buildings with concrete floors.

Surface Water: There is a low potential for release to surface water from these units. The units are located inside buildings with concrete floors.

Air: There is a low potential for release to air from these units. The units are located inside buildings with concrete floors.

Subsurface Gas: There is a low potential for subsurface gas generation from these units. The units are located inside buildings with concrete floors.

SUGGESTED FURTHER ACTION: No further actions are suggested for these units at this time.

39. <u>Unit Name</u>: Stormwater Drainage System

<u>CONCLUSIONS</u>: <u>Soil/Groundwater</u>: There is a moderate potential for release to soil/groundwater from this unit due to documented lead and PCB sediment contamination that may be attributable to this unit and the unknown integrity of this system.

<u>Surface Water</u>: There is a high potential for release to surface water from this unit because this unit discharges to surface water.

<u>Air</u>: There is a low potential for release to air from this unit due to the nature of the wastes managed.

<u>Subsurface Gas</u>: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes managed.

<u>SUGGESTED FURTHER ACTION</u>: It is suggested that this unit undergo integrity testing to determine if the hazardous constituents managed in this system have been released to the surrounding environment. If cracks or leaks are detected, then confirmatory soil samples should be collected where leaks are identified. Samples should be analyzed for Appendix IX metals, volatiles, and semi-volatiles.

40. Unit Name: Lead Particle Settling Unit

CONCLUSIONS: Soil/Groundwater: The potential for release to soil/groundwater from this unit is low because it is located on a concrete base and is self-contained.

Surface Water: The potential for release to surface water from this unit is low because it is located on a concrete base and is self-contained.

Air: The potential for release to air from this unit is low because it is self-contained.

Subsurface Gas: The potential for subsurface gas generation from this unit is low because it is located on a concrete base and is self-contained.

SUGGESTED FURTHER ACTION: No further actions are suggested for the unit at this time.

41. Unit Name: Outfall 003 Waste Pile

CONCLUSIONS: Soil/Groundwater: There is a moderate potential for release to soil/groundwater from this unit. Soil staining and oily waters were observed in the vicinity of this units during the VSI, but the nature of the wastes is unknown.

Surface Water: There is a moderate potential for release to surface water from this unit. Soil staining and oily waters were observed during the VSI. Runoff from this area is discharged to the South Branch of Ley Creek.

Air: There in an unknown potential for release to air from this unit due to the unidentified nature of the wastes managed. However, no odors were detected in the vicinity at the time of the VSI.

Subsurface Gas: There is an unknown potential for subsurface gas generation due to the unidentified nature of wastes managed.

SUGGESTED FURTHER ACTION: It is suggested that confirmatory soil sampling be performed at this unit to determine if a release of hazardous constituents has occurred. The samples should be analyzed for Appendix IX volatiles, semi-volatiles, and metals.

FOIL204933

42. Unit Name: Lead Dross Shed

CONCLUSIONS: Soil/Groundwater: There is a high potential for release to soil/groundwater from this unit due to documented lead, chromium, cadmium, and PCB contamination in soils surrounding this unit.

Surface Water: There is a moderate potential for release to surface water from this unit due to the close proximity of the Outfall 001 Drainage Area (SWMU 45).

Air: There is a low potential for release to air from the unit due to the nature of the wastes managed.

Subsurface Gas: There is a low potential for subsurface gas generation from the unit due to the nature of the wastes managed.

SUGGESTED FURTHER ACTION: It is suggested that this unit be included in an RFI of heavily contaminated soils in the vicinity of this unit and Baghouse No. 4 (SWMU 22) to determine the nature and extent of soil and groundwater contamination in the area.

See SWMU 22

43. Unit Name: Suspected Oil Seep

CONCLUSIONS: Soil/Groundwater: There is a high potential for release to soil/groundwater from this unit due to documented soil contamination.

Surface Water: There is a high potential for release to surface water from this unit due to the close proximity of heavily contaminated soils and the Outfall 001 Drainage Area (SWMU 45).

Air: There is a low potential for release to air from this unit due to the nature of the wastes managed.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes managed.

SUGGESTED FURTHER ACTIONS: It is suggested that this unit be included in the RFI of the drainage areas of Outfalls 001, 002, 003, and 004 (SWMUs 45 to 48).

44. Unit Name: Former Substation

CONCLUSIONS: Soil/Groundwater: There is a moderate potential for release to soil/groundwater from this unit due to documented soil contamination by oil and grease.

Surface Water: There is a moderate potential for release to surface water from this unit due to the close proximity of Outfall 003 Drainage Area (SWMU 47).

Air: There is low potential for release to air from this unit due to the nature of wastes managed.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of wastes managed.

SUGGESTED FURTHER ACTIONS: It is suggested that confirmatory soil sampling be conducted in the vicinity of this unit to determine if hazardous constituents have been released to soils. Samples should be analyzed for Appendix IX semi-volatiles and metals.

45. Unit Name: Outfall 001 Drainage Area
46. Unit Name: Outfall 002 Drainage Area
47. Unit Name: Outfall 003 Drainage Area
48. Unit Name: Outfall 004 Drainage Area

CONCLUSIONS: Soil/Groundwater: There is a high potential for release from these units due to documented soil contamination by metals, PCBs, and oil and grease.

Surface Water: There is a high potential for release to surface water from these units due to documented sediment and water contamination by metals, PCBs, and oil and grease.

Air: There is a low potential for release to air from these units due to the nature of the wastes managed.

Subsurface Gas: There is a low potential for subsurface gas generation from these units due to the aqueous and dilute nature of wastes managed.

SUGGESTED FURTHER ACTION: These units are suggested for an RFI to determine the nature and extent of soil, sediment, ground water, and surface water contamination.

FOIL204937

A. Unit Name: Former USTs (3)

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater because the units were enclosed tanks and sampling conducted by the facility indicated that the soil surrounding the units was not contaminated.

Surface Water: There is a low potential for release to surface water because the units were located underground.

Air: There is a low potential for release to air because the units were located underground.

Subsurface Gas: There is a low potential for generation of subsurface gas because the units were enclosed tanks and sampling conducted by the facility indicated that the soil surrounding the units was not contaminated.

SUGGESTED FURTHER ACTION: No further action is suggested for this unit at this time.

B. Unit Name: Lime Ash Bag Storage Area

CONCLUSIONS: Soil/Groundwater: There is a low potential for release to soil/groundwater from this unit due to the nature of the wastes managed.

Surface Water: There is a low potential for release to surface water from this unit due to the nature of the wastes managed.

Air: There is a moderate potential for release to air from this unit due to the lack of cover on the bins.

Subsurface Gas: There is a low potential for subsurface gas generation from this unit due to the nature of the wastes managed.

SUGGESTED FURTHER ACTION: It is suggested that the facility keep these bins covered to prevent wind dispersal of the ash.

FOIL204939

Attachment A

VSI Log Book

(1)

Roth Brothers

arrived 7:50 am

Met w/ Neil Schwartz
4/29/91

4/29/91

buy scrap materials
analyze everything
coming in

Al & Zn alloys

saw film on facility

1927 started

Al alloy, Pb & solder alloys

Zn alloys for automotive
indus., electrical houses,
appliances,

market = northeast corridor

privately owned leased fleet
of delivery

AD Turner 4/29/91

500,000 lb finished prod/day

32-acre site

200,000 sq ft under roof

raw materials, pre-sorted
& graded

Al shredder
rotary kiln dryer
burns off oil/coatings

screened for non metallics
& ferrous prod.

weighed & reassayed

dressed charged into blast
furnaces

bullion assayed

AD Turner 4/29/91

(4)

melting in
gas or oil raver, furnace

feeders add at controlled rate

mixed in furnace

Cl_2 injected into molten
baths

work in process sample
taken

analyzed
[illegible] wet lab
+ other instruments

statistical process control
for QC program

before any furnace poured,
it is tested again

plus add. samples
4/29/91 AR Turner

(5)

color coded ingots to
customer spec

Brian Rogers - State

Richard Mary - second

joined at 8:10 am

flow process diagram(s)
for site

3 separate oper

Al - sort, process out
as ingot

Solder - same process

Zn -

4/29/91 AR Turner

(6)

this site since 1949
he will confirm

Started out in Al
then solder
then Zn

always 32 acres
vacant before Roth here

to the south is U.S. Hoffman
assembly for
fans, blowers
vacuum equip

to north is Oberdorfer Foundries
Al foundry
here for 100 yrs.

A Turner 4/29/91

(7)

to west cul-de-sac
w/ lumber yd &
machine shops

to east transmission
shop & residential

Bristol Squibb south
nearby

Carrier to the north
(industrial, light & heavy)

basic processes
have not changed
dramatically

had over 200 employees
down to 170 hrs employees

A Turner 4/29/91

FOIL204944

(8)

Al prod

cyclical business
tied to automotive
business

medium

Al 80 mil lbs/yr
solder/lead 20 mil/yr } final prod
Zn 6 mil/yr

commodities change in price daily

24 hrs/day 5.5/wk
never shut off furnaces

4/29/91 Al Turner

(9)

go thru Zn alloy
process

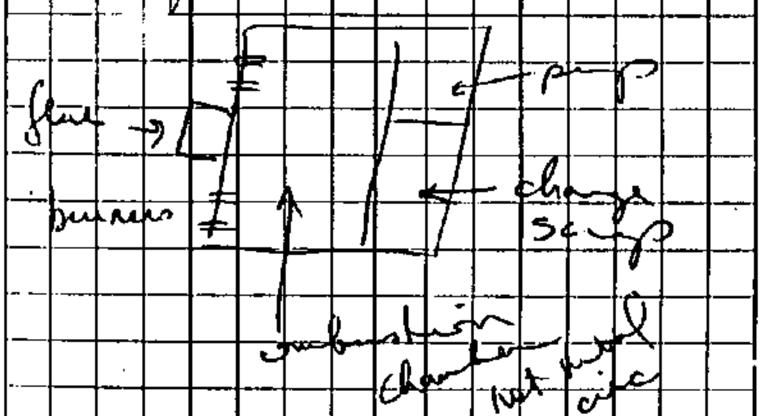
Zamac 4% Al, 96% Zn
automotive indus

buy special high grade Zn
99.99% Zn

Zn ingot not scrap

melt in reverb furnace

refractory line furnace



4/29/91 Al Turner

(10)

Scrap is prepared (Al)
by putting in crusher
(hammer mill)

2 for Al then rotary dryer
1 for solder (rotary furnace) to burn off (approx. 700 F°)
oil & grease

then Magnet

comes out clean & dry

high grade Zn
not sorted

Al - clean & dry material
doesn't need sorting

Lead oxides reduced to metal

A D Turner 4/29/91

(11)

Zamac produced
fed in high
grade Zn & Al

not used in 2 yrs.
Nervik furnace
for Zn

can't compete w/ Canadian

1 baghouse shared
w/ Al running
operation
nec for Pb & Cd

no other wastes
brass goes back in
furnace

wastes
use flux in charge well ⇒ Al dross
sold to recycler for
processing to recover Al

vol - 5-10 mil lbs / yr.
always had value

A D Turner 4/29/91

12

Pb solder operation

Pb + Sn alloys are final prod.

2 distinct operations

by-drosses - oxides of Pb + Sn

from people using solder
skimmers from pot

into rotary furnace
3m x 3m
refractory lined

add soda ash, coal
+ other fluxing agents for
create reducing atmos to reduce to base metals

AC Turner 4/29/91

13

flows out as Pb/solder slag

Pb - Cu
Pb skimmings, not oxides
go right to refining pots (Pb pots)

not refrac. lined

analyzed for Pb + Sn before

40/10/60 Pb/Sn

special alloys
by customer spec.

S added to remove Cu

refining pot has bag house

AC Turner 4/29/91

14

from pot into
Star wheel conveyor
to make ingot
& wire for
automotive indus.
(radiators)

by prod

Slag from rotary
furnace

baghouse dust
from furnace
& refining pot
(K069) approx 500-600
tons/yr.

flue dust was being
exported w/ export
notification
(UK)
Copper Pass in UK

AD Turner 4/29/91

15

since closed down
in last few wks

now need to get rid
of K069

Slag -
from materials
(not manifested)

analyzed every lot
to non haz
waste landfill

Pb < 5 ppm to
Modern Landfill
near Buffalo, NY

vol will be supplied

Soda ash, coal,
borax

all other fluxes in there

AD Turner 4/29/91

FOIL204948

(16)

Pb + Cd
every load tested
under TCLP

electroplating sludges
hasn't been done
for yrs. < 3 yrs.
for 2 yrs.

Pb + Sn content determines
What to recycle

Dan joined us

Pb slag tested by
TCLP

then landfilled the
Secura land fil

AS Turner 4/29/91

(17)

near Orleans County
in Western NY

[illegible] has 30% [illegible]
typically 0.5 ppm Pb

baghouse dust
has gone to UK
since start of RCRA

prior to RCRA probably
Stored + taken
on site
to landfill periodically

baghouse dust for Al
Michigan ~~[illegible]~~ fill
for disposal
haz waste landfill

typically 3 loads/mo
40-45,000 lb
60 tons/mo [illegible] - D008

AS Turner 4/29/91

(8)

all Al operations
contained

similar to other baghouse
dust

pre RCRA to landfill
accum on site

Zamac

baghouse dust

going to Modern or
Orleans

not hazardous
tested for TCLP

ton/mo or less

RW Turner 4/29/91

(9)

- contractor to pick
up office refuse
Laidlaw & another contractor
Seneca Meadows landfill

- accum in dumpsters
at both plants

- city water
from Lake Ontario

Skaneateles Lake
drinking water

no wells on site
or 1 mile radius
all city water

city sanitary sewer

USTs

2000 gal diesel
2000 gal full gas
1000 gal gas
gas tanks

RW Turner 4/29/91

(20)

started in '50's
not orig tanks

diesel } 5-6 yrs ago
gas
Jud gas } last 10 yrs
all 3 replaced

secondary containment

tested on yearly basis

replaced because they
were aging

always in these locations
except diesel fuel
tank moved
100 feet

to service fleet of
trucks

A Turner 4/29/91

(21)

Maintenance of trucks
on site

used oils up to approx
yr ago
taken off site by
Safety Kleen

<1 yr ago accumulating

2 aboveground 15,000 gal
tanks
backup fuel
for all fuel
for All operation

waste oil burned then
waste oil heat
generator for shop

accum in 3 tanks
former oil storage tanks
aboveground.

A Turner 4/29/91

22

burner uses 1-2 gal/mo.

vol - 200 gal/mo. approx.

washing vehicles
in this area

batteries on buy-back

no batteries recycled
never [illegible]

tires are traded in

laboratories

talk to lab personnel

[illegible] Turner 4/29/91

23

2 275 gal tanks
for storage of
incoming fluids
for fleet

all oils in encapsulated
areas

2 maintenance areas
above ground

prior to RCRA
baghouse dusts
may have been
stored out back

refractory lining
85% alumina
brick

added bldgs. throughout yrs.
not drastically changed
operations
on main bldg.

[illegible] Turner 4/29/91

(24)

ving in early 80's

There were 5

2+3 continued in late 80's (for Al)

because samp. sample points + dramatic decrease in flow

When Zn process subsided spraying undesirable solids

to 2, 4, 5

Outfall 1
water from Pb rotary

water-cooled furnace + stormwater noncontact, jacketed

AO Turner 4/29/91

(25)

Water from Pb
thru ion-exchange

goes to Sanitary Sewer

water cooled pumped thru tank + thru double ion exchange unit to tank

Pb rotary cooled, discharged to Outfall 1

Al cooling water is discharged to Outfall 3

Outfall 5 for Zn

AO Turner 4/29/91

(20)

Oil / Water Separator
at Plant 1

in last 6-7 yrs
Outfall 3 all incoming materials
in storage bins

prior stored on gd.
+ oil residues
probably from releases
cutting oils
oil runoff

Outfall 003 - Al runoff

Outfall 001 - Pb operation

was incinerator &
sweat furnace
which is shut down

A.D. Turner 4/29/91

(27)

Cu wire incinerator
inside

burned insulation
& sold as Cu

Cu incinerator
did same thing

Sweat furnace
2 metals physically
joined w/ diff. m.p.'s
set T between
& one will come off
molten

Zn/Fe Al/Fe

Solder/Fe

not alloyed

operated for 5 yrs
recently closed
(in last month)

A.D. Turner 4/29/91

28

oil/water separator
back of that
operations

might have had
oil contaminated

"close catch basin"
nothing going
into it now

had scrubbers for
Cu incinerators
& they disintegrated

would not burn PVC
insulated wire

after early 80's only
paper wire burned

PVC wire sold

A E Turner 4/29/91

29

buy underground power
cable
lead sheathed

strip Pb, raw material for
Chr manufacturer

leaving paper covered wire
which was burned

sold or bailed Cu; never
melted Cu

out of business now
Cell not being used
since 1 month

has been going 15-20 yrs.

heading toward Al business

A E Turner 4/29/91

(30)

air permits

renewed last yr for 5 yrs

air permits started
in 1984

renewed in 1989 until 1994

- baghouses
approx 12 emission pts
to baghouses

2 wks ago
took
Cu incinerators & sweat furnace
& tied in dust
collector from
Al crusher into
baghouse

AO Turner 4/29/91

(31)

Pangborn ~~bag~~ baghouse
just tied in
for Al crusher
w/in last 2 mths.

rotary dryer & crusher
tied to Duell baghouse

7 compartments in baghouse
for lead operation

5 baghouses total

Pb 1
Chip Dryer 2 (Zamac)
Wheelabrator baghouse

3
~~see~~ Xerox

AO Turner 4/29/91

(32)

PCB contamination
at Outfall 003

roadway coming into plant
004

found PCBs
source unknown

tested incoming material
in early 1980's

non-ferrous smelter
(SIC 3341)

don't handle anything
normally handling
PCBs

Since that time all
scrap has been
covered

A O Turner 4/29/97

(33)

better oil/water
separator
installed

monitored monthly
for PCBs

Standard 1 ppb
than in past yr

reduced to 67 ppt

as of Friday, asked what
should standard be

300 ppb or

haven't had exceedance for
PCBs

checked annually
PCB transformers
(active)

A O Turner 4/29/97

FOIL204957

34

sewer manhole
repaired

Storm sewer from
Plant 1 to OO4

repaired & then
fall off of PCBs

manifested PCBs

transformers were
on site
tested + replaced

because they had PCBs

replaced w/ mineral oil

were active transformer
after new ones
installed; manifested
off-site 1989

A D Turner 4/29/91

35

3 transformers removed

Oberdorfer land fill
contiguous

piles of sand on
adjacent property

stormwater run off
ditch between
properties

on both property

filled in last 3-4 yrs.
was open ditch

soil borings

in last yr, soil sampling

thruout entire area

A D Turner 4/29/91

FORM 58

(36)

w/ H+A hydrogeologists

want to expand operation

+ do self-analysis

looks in [illegible] down sampling of entire 32 acres

hotspots in Plant 2

Pb + contamination

gdwater monitoring in-

verbally, no contamination of gdwater

waiting for final report w/in month

want to go to state + EPA w/ this info

AO Turner 4/29/91

(37)

but by Al another area is one hot spot

north of Plant 2 is adj

in past, prior to 1980 some of baghouse dust stored in piles in that area

did full sweep on these soil borings

installed gdwater monitoring in this area

may be at least 6 wells

AO Turner 4/29/91

looking at property
line on Obendorfer
as well

determine direction
of gdwater flow

elevated levels of some
metals in soil

no spills on site

not within floodplain

Oil/water separator(s)

Al - storage Plant 1
sweat furnace

moved about 100 ft from
original one 1984/1985

[signature] 4/29/91

industrial furnaces
no haz waste
incinerators

gd water dewatering pumps

were recycling water
thru cooling water

only using make-up
water

but staining inputs
to discontinued

all make up water
& discharging

Dan Mauer

[signature] 4/29/91

(40)

blowdown

(from when using recycled water)

from cooling towers
any impurities
that may have
settled

1978 - 1988

DeWitt Landfill

prior to 1980

anything not sold
all wastes to
DeWitt landfill

closed in last
2 yrs.

AD Turner 4/29/91

(41)

1980 to 1988 DeWitt Landfill

pallets, etc

closed in 1988

40% of raw material (Al)
from crusher
to rotary furnace
after burner & baghouse

in plant), smaller from
Al turnings & borings
crushed, dryer, afterburner,
& baghouse
& magnet
crusher 40%

20% direct charge material

AD Turner 4/29/91

(42)

walk thru began at 10:45 am

partly cloudy + ~70° F

Plant No 1 + 2 Substation

step down

new transformer last July

never PCB related

Transformer consultants tested annually

never spills, fires, or problems

Storm water runoff drains in parking lot

SD Turner 4/29/91

(43)

Oberdorfer fill area to edge property

Cl_2 in by truck

rail car purchased for Al operation

when making Al alloys w/ Cu Zn etc can then remove Mg + cleans metal

by rail is some Al dross

98% by truck

Safety Kleen parts cleaner

SD Turner 4/29/91

(44)

bone ash bought
as mold release
agent

Ti-I Mg used only
for specific
alloys

Al product
not stored indoors
until after processing

Al F fluxing agent
also NaCl, KCl

A. Turner 4/29/91

(45)

charge well for Al furnace
w/ graphite pump
air cooled

no painting operations

Al baghouse on roof

3 Al furnaces in
[illegible] area

125,000 1 at 90,000
in Al lbs held

ambient air added
for refractory life

baghouse fire
Plant 2
1988

A. Turner 4/29/91

FOIL204963

(46)

1000 lb sows made
as well as Al ingots

when alloy'd

& flows by gravity
into stahl wheel
& meters out metal
into ingot molds

then molds are
water cooled
1400 – 600°F

automatic stacker

drying remelt sows
bought as scrap

dried to eliminate
water before
charging into furnace

AO Turner 4/29/91

(47)

All baghouse dust
discharge pt

3rd poly bags &
1½ yd³ triple corr boxes

for shipping

rejection of ingots
for physical prop.

recycled to furnace

heavily stained &
cracked outside
pavement

Baghouse on roof

stormwater runoff pt
outside Plant No 1

AO Turner 4/29/91

FO[illegible]964

48

containment installed
around 1982
2X 15,000 gal prod tanks
also tanks installed
then

rainwater pumped out
to Hoffman property

fill tanks from
Hoffman

tanks inspected 1.5 yrs.
ago

welded some areas

tanks only backup
except 1/mo to
check system
worked

AD Turner 4/29/91

49

probably partial
(filling every
3-4 mos)

Si metal most Al alloys
run 9-11% Si

quartzite Si oxide reduced
to Si

Al dross from furnace
sold to recycler

approx 15% Al recoverable

always stored indoors
except customer
dross to be sold

Al baghouse dust before
stopped & welded

AD Turner 4/29/91

(50)

shipments approx 1/wk
7 weeks out of 8

40-45000 lbs of material

as long as handled as
hazardous waste. it has been
stored indoors

Si recycled material
probably goes back
to customer

Fe too high

Chrysler Dryer & Lamac
Bag house

AD Turner 4/29/91

(51)

in (proposed) dross
(from Chrysler)

Some will be mixed w/
Rotary drosses &
some will be melted
directly

All dross storage
now in covered
bins

before 1985 stored
in piles

All remaining storage
old

concrete heavily
stained &
cracked

AD Turner 4/29/91

(52)

Oil Water Separator in
Al Jennings yd.
6' x 20'

concrete pit

he will provide vol

installed in 1986

prior to 1986, former
oil/water separator

+ empty drum storage
area - to give
drums back to
supplier

in Al Jennings Yard

AO Turner 4/29/91

(53)

Dumpster for pallets
in Al Jennings
yd.

1988 beyond bldg
+ near drum
storage area

all raw materials
in Al Jennings
yd.

turning before drying
process

trucks pull in +
dump directly
to bins

drains to Outfall 4

molds also stored
here under roof

AO Turner 4/29/91

54

Oil water separator
to oil waste tank

to burn in Maintenance
shop

water is discharged

concrete heavily
stained & cracked

under roof for
last 10 yrs.

H_2O discharged to Outfall 004

perhaps 50-100
waste oil
drums

AO Turner 4/29/91

55

& empty drums
don't know how these
are disposed

Steam cleaned & sold
to recycler
steam cleaned in
cleaning shop

waste oil - hydraulic
oil
from conveyors

approx 250 gal tank
1980 started

AO Turner 4/29/91

56

prior to 1980
hydraulic oils
not known how
disposed
hydraulic oil well
remain

initially located
oils in bulk
storage units

runoff from bins
to settling weir

concrete

unknown installation
date

A D Turner 4/29/91

57

oil pumped to
Oil Water Separator
for Plant No. 1
clean out periodically
have to dispose of
this, most likely
as haz waste

Zn operation in
Plant No. 1
Zn ingots 99.99%
to make Al alloy

Furnace removed
not used in 2 yrs

A D Turner 4/29/91

FOIL204969

58

alloying in pot room

Zn pot

fuds to baghouse
w/ chip dryer

reverb furnace ato
went to
baghouse

steam hood pulling
steam to atmos

water to outfall 5

Al turnings / Al chip dryer
w/ hammer mill crusher

rotary kiln
to burn off
oils

AD Turner 4/29/91

59

Variable speed torque
metal flights to
convey material
thru rotary
burned

discharged to magnet

truck loading area
mostly offloading
of Al turnings to
Dryer

always under cover

12" block bldgs

Metal deck ceiling
w/ buildup roof

heavily stained interior
floors

AD Turner 4/29/91

(40)

N_2 purge graphite
pumps free
in the process

+ vaporizer for Cl_2

tour resumed at
1:25 pm

Plant No. 2

weigh scales

forklift maintenance

new product oil storage
in Plant 2
maintenance yr.

for 2-3 yrs.

AO Turner 4/29/91

(41)

waste oil tank
in maintenance
area

+ burner

<0.002 % ash
content

installed 1 yr ago
(last fall)

doesn't need scrubber

95% vehicle maintenance
+ some hydraulic

Safety Kleen valves
antifreeze waste

AO Turner 4/29/91

FOIL204971

62

3 tanks

1 300 gallon tank
(part of processing plant)

1 250 gallon

1 250 gallon

manually added
to tanks

any hydraulic units
presses, stackers

get changed 2X/yr
approx 50 gal
total

S O Turner 4/29/91

67

Safety Kleen parts
1/mo

probably
bought oil from them &
they took away
wastes

oil filters go to
dumpsters

cardboard, etc.

heavily stained concrete
beneath waste
oil tanks

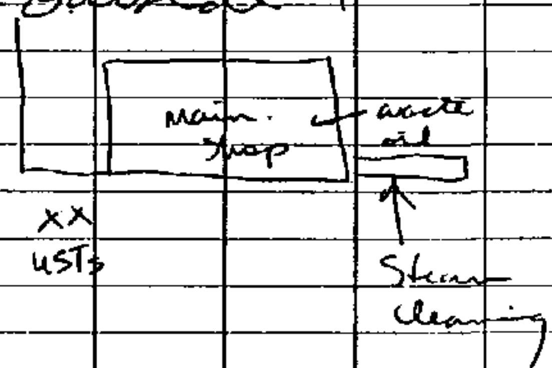
2 USTs outside
maintenance shop
in Plant 2

S O Turner 4/29/91

2000 gal + 1000 gal
there were 3 here
but moved to
another location

no soil testing
tested at later time
+ soil "OK"
w/in last 2 yrs.

Steam cleaning unit
outside



AO Turner 4/29/91

w/ oil/water separator
also sump w/ pump to
transfer to
oil/water separator
for steam cleaning
vehicles

water is separated out
to storm drains

this area drains
north + south

this was constructed
in 1983

no steam cleaning
prior to 1983

+ separator installed
same time

AO Turner 4/29/91

66

2000 gal UST
outside trailer
repair shop

near Plant No. 2

this was moved here

storm drains
out in yard

v. cracked pavement

maintenance repair
shop
welding

1 w/ parts cleaner
Safety Kleen

AD Turner 4/29/91

67

scrap sorting
operations
inside

bailed + shipped out

Cu bearing materials

Pb solder
operation

billets poured + casts

billets heated up +
extruded
to make wire

to automotive indus

Al Scrap Warehouse

AD Turner 4/29/91

(68)

lead storage &
ore storage
area

rail loading area
indoors

Pb refractory lined
rotary / horizontal
slag furnace

put dross in & when
ready tap out

add fluxes to fluidize
the slag

for solder & tin drosses

only 1 such unit

H D Turner 4/29/91

(69)

refining pots
(Pb pots)

flue rotary
unclogged
& then loaded
to Pb pots (4)

Scrap lead stored in
this area

Pb tilt furnace
for specialty alloys
periodically
1/mo

tied into baghouse
along w/ pots

for 20 tons & 60 ton
capacity

H D Turner 4/29/91

FOIL204975

70

ion exchange unit
for Pb casting unit

w/ filter media (resin)
for ion exchange

1/yr. resin exchanged
goes to haz waste

cooling water cleaned here
Pb

capacity of ion
exchange unit

AD Turner 4/29/91

71

lead dross storage
area

indoors on concrete

fed into baghouse
mixed w/ fluxes
& loaded into
rotary

lead dross sometimes
but not indoors
prior to 1980

still stored in this
location

was paved when
stored outdoors

settling chambers for
Pb rotary
haz waste fed to baghouse

AD Turner 4/29/91

FO[illegible]976

72

Pb baghouse
Storage

6 boxes across
5 boxes deep,
1 aisle space

3 bays, 2 1/2 full

spent lime goes
out w/ bag
waste

or non-haz waste
from Pb baghouse

AO Turner 4/29/91

73

Summit Pb baghouse

collection box for
Pb baghouse

beneath shaker
K069

30,000 lb 40,000 every 3 wks
(3 bad days) 17 shipments/yr

majority is lime 60%

lime helps the process
cuts down
spontaneous combustion
of dust

bag acts as better filter
helps material
shake off bag

AO Turner 4/29/91

(74)

Pb baghouse
always this area

& Pb storage

rainwater runoff
beside Pb
baghouse

near lumber yd

Baghouse 4

Baghouse 5
is dust collector
just fed in

capacity ion exchange unit =

A D Turner 4/27/9[illegible]

(75)

facility tour ended at
2:15 at request
of facility

VSTI team remained to
obtain copies of 373 Permit

left at 2:45

A D Turner 4/29/91

FO[illegible]78

(76)

arrived at facility at 8:35 am

4/30/91

raining, T approx 60°F

spent lime is not from baghouse

ash from bags that lime comes in

burned in tub + disposed as nonhazardous waste

clarification from yesterday

A D Turner 4/30/91

(77)

bags in baghouse go in haz waste shipment w/ dust

changed 2x yr July + Dec (@ shutdowns)

or as needed run continuously if T ↓ below dewpoint, can blind bag

can shut down each module

shaker baghouses

all baghouses use lime because of blinding + to prevent spontaneous combustion

A D Turner 4/30/91

FOIL204979

(78)

Chip Dryer installed 1970
present location

prior to that in different
location

since beginning operation
have had this
process

- Al turnings processed
32 mil lbs/yr.

Zamac furnace installed
1955

both moved from State Street
in 1946 or 1947

Zamac furnace - remelt furnace
holds 20,000 lbs zinc
T approx 800°F

Chip Dryer Baghouse installed
(Wheelabrator) Jul 1980

AD Turner 4/30/91

(79)

Buell (Al baghouse on roof)
Oct 1977 installed

~~Pres~~ Pb Baghouse installed
1CH (4) 1973
Dusty Dustless (2) 1975
Carborundum (1) July 1976

Buell for Plant No. 2
(part of Al Crusher Baghouse
Sep 1977

Pangborn (tied into crusher
was tied into sweat furnace
& outside incin)
Jun 1988

Zn pots installed 1955
when whole Zn
operation started

ductile iron for low
melting temp 700-800°
refractory shell w/ burners
at tangent to pots sits on

AD Turner 4/30/91

FOIL204980

80

refractory lined

capacity of Zn pot
14,500 lbs Zn

capacity of Pb pots
2 x 30 tons (welded cast steel)
2 x 20 tons (Fe cast)
ductile iron also
installed in 1955?
pots replaced yearly
inspected & change if
any dimensional changes

when discarded, Roth Steel
used to take them
don't know disposal now

Al furnaces
1947 (1)
added furnaces thru
the years

No. 6, 7, 8
7 rebuilt in 1986

AD Turner 4/30/91

81

major repairs throughout
major repairs 6-7 yrs.

set on concrete 18" pad

refractory disposed
D006 + D008
goes for haz waste

Al dust storage
at start of RCRA
(early 1980's)

prior sold some & tried
to sell some of dross

probably also stored
outside pre RCRA

in boxes or put on trailers
never stored in piles

AD Turner 4/30/91

FOIL204981

start-up date for Pb storage
when RCRA came in
1980? or 1981

- pour billets from ~~Pb pots~~ tilt furnace
store + make solder
wire
modified 600 ton press - extrude
as wire

- Pb tilt furnace
3' high by 18' in diameter
pour billets out of this

Pb rotary furnace 3m x 3m
purchased 1973

tilt furnace from 1955,
replaced as needed
like a pot

vol Pb slag generated
sold out every 6 mo.

AD Turner 4/30/91

approx 8 trucks
Approx 700,000 lbs/yr.

- prod Al dross that is
sold to recycler in Ohio

- 5-7 mil lbs/yr.
flux + Al skimmings from
top of furnace (15% Al)

accumulated in an outside
Pb slag bin

no Cr, v. small Cd, Sn, Cl's
Antimony oxides
almost vitrified
slat is so fluxt

vol of waste oils generated
4000 qts = 1000 gal/yr.

AD Turner 4/30/91

84

Waste Oil tanks
were used for new oil
storage before last yr.

age unknown

Oil collected from runoff
goes to Oil/Water
separator

underground tile pipeline
to ditch leading to
outfall

monitored thru SPDES
overflows into
pipe

Outfall 004

AD Turner 4/30/91

85

inground oil/water
separator from
Al [illegible] yd.

series of weirs, water
overflows to
pipes to Outfall 004

cleaned on Outfall 004
on monthly basis

pump into drums &
transfer to
processing station
oil/water separator
for hydraulic oil

Oil is decreasing because
[illegible] are drier
[illegible] yr

[illegible] manufactures new
[illegible]
[illegible] oil

AD Turner 4/30/91

86

in parts used to have
to use absorbents
for oil coming off

now much drier

will get dimensions
of Inground Oil/Water

Steam cleaning room
to settling tank

oil to Oil/Water Separator
for Hydraulics

or oil drain, then straight
to waste oil tank

water goes to SPDES
perhaps then drain
tile
not sure

relatively small quan.
AD Turner 4/30/91

87

sump is approx 18" deep

All turnings storage yd
bins built in 1985

Most turnings stored in
piles toward Oberdorfer
side

used area since started
all operations

most are run directly off
trailer then dry
dryer

if overflow, or if it
doesn't fit into
allow to store
outside

always stored in this area

AD Turner 4/30/91

FO[illegible]984

(88)

Al turnings yd approx 20,000 sq ft
paved in 1988

earlier portion paved
probably 1975

~~40' x 50'~~ incorrect
approx.

Walk-through
Started at 10:00 am

solder dross

fill spout for black
rectangular unit

Copper Rotary Wire Burning
discontinued in
1990

AD Turner 4/30/91

(89)

flues to the furnace

ran about 500 lbs/hr
of processed wire
(gross in)

tied into crusher baghouse
+ only ran when
crusher not in
operation

early '60's installed

Al crusher Plant 2
to after burner, baghouse

+ then trucked to
Plant 1 for furnace

Al fines screened

looked into burner

AD Turner 4/30/91

FOIL204985

(70)

feed into crusher

workers to sort out

sort out +

Al crusher 1962

crusher, belt conveyor, rotary dryer, magnet

5-20,000 lbs/hrs.

sheet cast

Baghouse for crusher #3

Al fines are sold to exothermic people

-80 mesh

AD Turner 4/30/91

(71)

generate approx 300,000 yr.
always been sold

Storage yard outside Al Crusher Plant 2

Fe from crusher separated by magnet

to bin to put in crusher or charge

partially paved in poor condition

emptying drum storage area for scrap al

AD Turner 4/30/91

FC[illegible]986

standing water from morning rain

oil & grease film on water

empty trailers

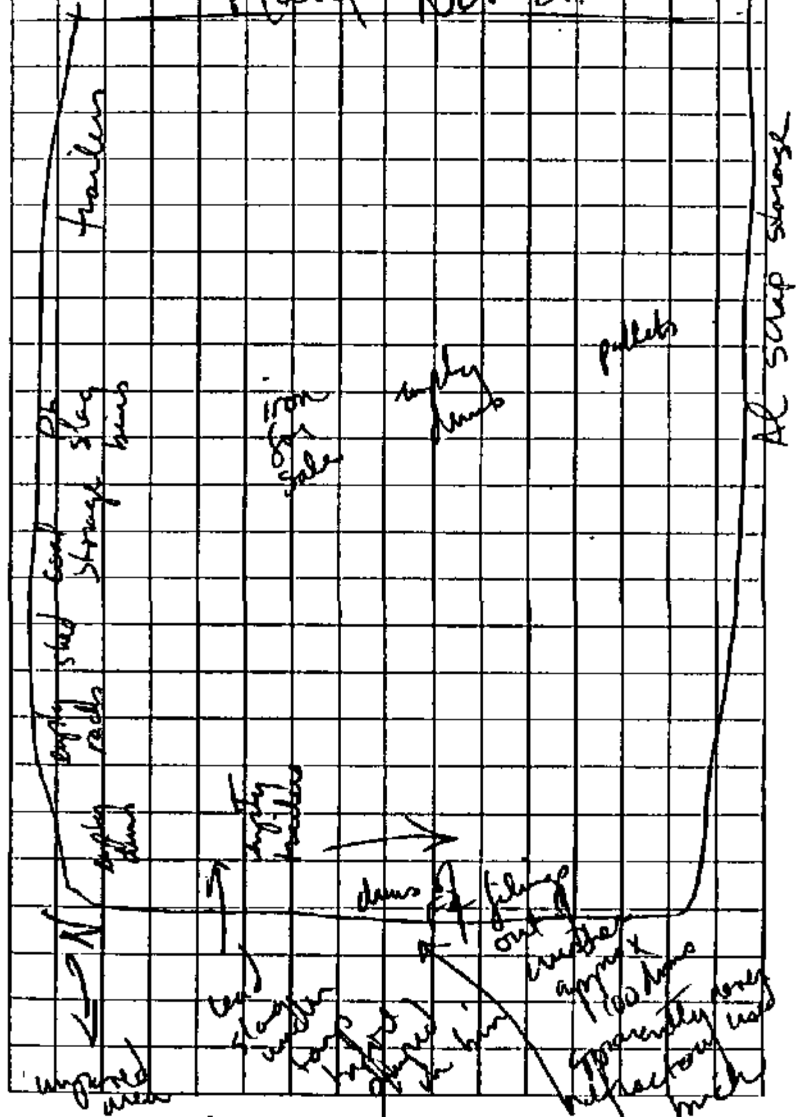
coal storage for Pb rotary for reducing atmos.

more empty drums

+ Pb slag for disposal in

4/30/91 AO Turner

Plant No. 2



AO Turner 4/30/91

FOIL204987

94

refractory bricks not used
cut offs
some have been used

piles in background
from taking up old
parking

this is the area inves
for ex pansion

gd water mon wells here

perhaps 100 piles of
scrap paving

new pots also stored
here

under tarp
may be Al fines
+ dirt

AD Turner 4/30/91

95

screened out of crusher
if too much dirt
to be sold

scrap metal + soil piles
used sand piles
for sale

at least 6 used pots

also Al radiators ← drained dirty
+ Al wires
↑ sold

Al foils which can't
be run

will probably try to sell

boxes of electronic components
transistors

AD Turner 4/30/91

(96)

crushed + any plastics
get burned off

(pullers 150-200 holes
20% recovery)

+ Al screens v. low
recovery

paving probably
15-20 yrs ago

1988 Al scrap storage
yd paved

150' X 120'
18000 sq ft

material prior to crushing

A D Turner 4/30/91

(97)

always stored in this area

some in boxes, some in
piles, some on pallets

obsolete scrap
lawn chairs, etc.
old Al sheet
stored on piles
+ under sheds (covered)

Pangborn baghouse
near Al scrap yd.

Al crusher dust collector
baghouse

Pangborn only to Al crusher

oily residue in yd
MHE equipment here

A D Turner 4/30/91

98

Crusher Baghouse
down from
Pb Baghouse
+ then Pangborn

N →

Pb baghouse   Crusher baghouse   Pangborn

crusher baghouse
collection pt   1

box w/ bag on pallet

same for Pangborn (#5)

AD Turner 4/30/91

99

out fall 001 sampling
point

Plant No 2, Al crusher
1 TT storage
area

3 sided w/ roof
on pallets

15' wide by 30 or 40' deep?

4 boxes wide
10 - 12 boxes deep
almost full at times
USE

AD Turner 4/30/91

(100)

Dust Collector
from Crusher
Exhaust to Pangborn
contents as hay waste
outside feeder for
Al crusher

near Al scrap yd
& Al storage area

~~Cu Wire Incinerator~~
Sweat Furnace

Fe/Al Fe/Zn
put in at top & melt

AO Turner 4/30/91

(101)

Course melting pt flows
out & solid raked
out

installed 1960 - until few
Whs ago

always under roof

Cu Wire Incinerator
Double

metal pallets w/insulated
wire

were both tied into
Pangborn
& then

the Cu Rotary had a
scrubber
when burning PVC wire

AO Turner 4/30/91

(102)

stopped PVC wire
+ burned only
paper covered wire
installed early 1960's

stopped approx no exp

Oil/Water Separator
for Sweat furnace
+ gel

5' x 15'
installed approx 1980

discharges to 001
all filed (from 1985)
used to be open
ditch

AD Turner 4/30/71

(103)

back is Niagara Mohawk
for 50'
then light industrial
+ carpentry shop

cleaned out approx ?
sludge is left to dry
+ then burned
stored to stratify
in Oil/Water Separator
shed for Hydraulic

+ raw material storage
Al + die cast (Zn)

standing water w/oil
residue/sheen

AD Turner 4/30/71

FOI 1992

(104)

d/o brass storage
under shed
to be sold to ingot maker

Cu Dust Storage Area
stopped when sweat furnace + indu[ction] stopped
there is no Cu any more
it is the Al Dust Storage Area

Looked at Pb pouring
Operation

cooling water to
ion exchanger

001 runoff used to be
ditch now underground
piping

walked fence outside

AD Turner 4/30/91

(105)

001 sampling pt
Standing Water
w/ oily sheen

the sample as it
discharges

Nuts up 4/2 + 3

debris jumping dur
Outfall

MW - here too

noncompliance SPDES

2 oil + grease excursion
last winter

attributed to small accum
of grease
+ another to materials storage

AD Turner 4/30/91

FOIL204993

(106)

these problems were corrected
oil & grease

Niagara Mohawk property

heavy oily sheen
in drainage
ditch

should not be connected
to both properties

20-25 ft from boundary

looks as if public uses
it as a dump

4/30/91 AO Turner

(107)

Spark Arrested
in Baghouse
outside
Plant No. 1

beside at out door
bins of Al fines
debris
from afterburner

goes to non hazardous
tested for toxic
Pb, Cd, Al
certified by company TCLP

approx 200,000 lbs.
to nonhaz landfill

AO Turner 4/30/91

(108)

some standing water
w/ oily sheen
along roadway
since

ditch along this
area appears
heavily stained
in some areas

standing water
w/ debris &
oily sheen

heavily stained or
perhaps dark
mud

drainage ditch to
~~Outfall~~ 004
roadway Thompson

does push up part of flow

AD Turner 4/30/9

(109)

to Outfall 004
located in manhole
roadway entrance
to Plant

005 gets filled
part of (underground)
located 20' from
Thompson Rd
connected to
Stormwater
runoff

not connected to Sanitary

filled in 1985

cooling water from Furnace
there

AD Turner 4/30/91

FOIL 204995

(110)

air monitoring station
by DEC

monitor for Pb

collects sample every 3
days

only 1 sample back

installed Nov '90

2nd is located
next to Plant 1
at entrance

runoff to Outfall 2/3
stained & oily residue

AO Turner 4/30/91

(111)

standing water below
003 outfall

some oily residue

this is adjacent to
area where
potential
expansion

returned to oil tanks
standing water from
rains in containment
light oily sheen
throughout

collection pt for
Chip Dryer Baghouse

in box, bag, pallet, concrete

AO Turner 4/30/91

FO[illegible]996

(112)

temperature climbed
to ~70° F
partly cloudy by
12:15

Baghouse fire
just looks at and of
service completely

crusher baghouse
burned in 1987
tied into copper rotary
baghouse
because copper
rotary not used
much

don't know why burned
try to clean catwalks
which accum dust

fire contained w/in baghouse

AD Turner 4/30/91

(113)

close out meeting
began 12:20

Former Al Baghouse
operated 1975-1987

then Copper Baghouse
became Al Cinder
Baghouse

other unit dismantled
after fire

flow thru ion exchange
unit

2 columns at 5 gal/min
+ tank of 500 gal

rated max total 7.5 gal/min

AD Turner 4/30/91

FOIL20

114

Pb prod 5 days/wk

ion, 3 yrs in use

BUDA Ion xchange System
September 1988
from invoice
for equip purchase

Lead Casting Cooling Water
Treatment System

inground 360 ft^3 - taken from drawing
Oil/water

Sweat furnace approx 80 ft^3
oil/water

Al Turnings yd
~~2~~6,000 sq ft^3 paved
~~1990~~ 1989 ϕ

AD Turner 4/30/91

15

total area is
40,000 sq ft approx

Tom of Lab to
follow close out
meeting

to receive from facility
- TCLP on bag/muller
waste

AD Turner 4/30/91

F 98

116

Lab

Al samples turned
taken every hr.

small electric furnace
to melt samples

poured into mold

Prep room for sample

turnings go to process

metallograph
verify grain
structure

AA unit

Test Pb & Solders

keep samples for 20 yrs
for prod. reliability

AD Turner 1/30/91

117

statistical process control

2 spectographs
for all alloys
Al w/ Pb back up
Pb w/ Al backup

wet lab

titrations for Sn &
Antimony

aqueous solutions
down drain

2 - 5 per day

from incoming Pb metals

no solvents
some acetone, to buy

AD Turner 1/30/91

FOIL204999

(118)

electrodes
5cc or less

HCl, H_2SO_4, HNO_3
for sample solution

0-90+ % Sn

alloys are 0-90%

10% or 15% Sn typical

+ testing pads
for 80%

lab drains tied into
sanitary

mid 50's operation began
[illegible] expanded

Turner 4/30/91

(119)

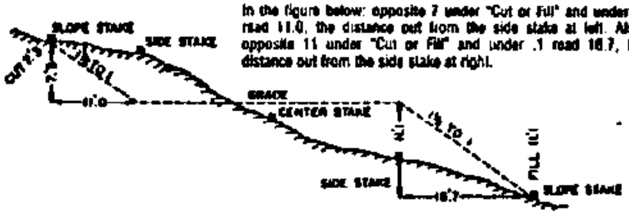
left facility
at 1:10 pm

Turner 4/30/91

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

Roth Brothers Smelting

Syracuse, NY

April 29, 1991

VSI Logbook

The paper in this book is made of 50% high grade rag stock with a WATER RESISTING surface sizing.

Roth Bros. Smelting Corp.

6223 THOMPSON ROAD
EAST SYRACUSE, N.Y. 13057

NEAL SCHWARTZ
General Manager

Phone (315) 463-9500

Roth Bros. Smelting Corp.

SMELTERS & REFINERS OF NON-FERROUS METALS

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Albany, NY · Buffalo, NY · Garden City, NY · New York, NY · Washington, DC

April 29, 1991
8^00 a.m

Roth Brothers purchases scrap material and alloy it, and sell it primarily to the automotive industry

Roth Brothers is a recycler

Since 1927, has been recycling non-ferrous metals used to make:
automotive radiators
electrical housing
" motors
barbeque grills
pistons

32 acre site

500,000 lbs of product/day produced.

Have outside covered

(1) GVS

In attendance:
Neal Schwartz Roth Brothers
Brian Rodgers - NYSDEC
Richard Marx - Nixon Hargrave Devans & Doyle

The weather is sunny, warm, low 60's

Viewed a film covering the a brief history of the Roth Brothers facility.

Facility will provide flow

3 operation processes:

- aluminum
- solder
- zinc

Storage areas.

This company is a three

raw materials
↓
shredder
↓
dryer
↓
screened for non-metallics
↓
magnetic to pick up ferrous metals
↓
clean scrap
↓
furnace

Aluminum

clean material

Reverberatory furnace

metal melted

Chlorine gas injected into furnace to cleanse metal

Sample taken to lab - full wet lab

poured

Bundled ingots stored in warehouse prior to shipment to customers.

Facility uses baghouses

F 5004

Roth Brothers has been in operation since late 1940's at this site.

This area was undeveloped land prior to the Roth Broth

U.S. Hoffman - assembly plant vacuum equipment, locate to South

To the north - Oberdorfer Foundries Carrier Corp. - Oberdorfer is also aluminum foundry

To west - Shops

To east - Transmission shop + some residential

light + heavy industrial

(5) JVS

Same basic process remain the same over the history

≈ 170 peoples (employees)

Alum production

70% of sales to automotive cyclical business

80 million/lbs/year - Al

20 million/lbs/yr - Pb + solder

6 millions/lb/year - zinc

24 hours/day, 5½ days/wk

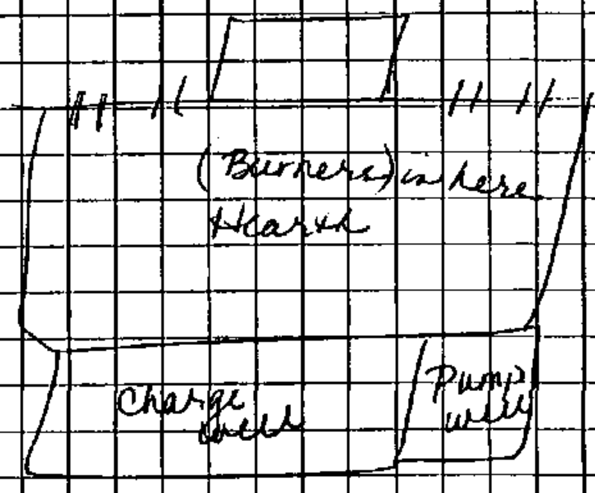
Zamac is alloy produced
96% zinc
4% Al

(6) JVS

FOIL205005

Purchases special high quality, Zinc

Zinc melted in a reverberatory furnace - refractory lined furnace — +Al added zamac (product)



al
↓
crusher
↓
rotary dryer - burns off oil/grease
700°F
↓
magnet
↓
clean + dry (no contaminants) @ Jvs

Drosses (solder Pb) + tin oxides → Rotary Furnace (3m long 3 m in diameter) lined

soda ash →

lab analysis

slag

Flue dust sold to a recycler (K069) was being exported to England (Capper Pass Refinery)

Refining Pots (Pb pots) This is where the alloying takes place

40% tin typical alloy
60% Pb but depends on cust specification

Baghouse dust (K069)

Sulfur may be added to get rid of copper —

Pb ignot - used for radiators

Pb operation - 72,000 CFM Baghouse

2 Alum dryers

lead drosses - reduces the lead & tin

Have not used Zamac furnaces in the past 2 years because

Zamac furnace & Al Fuming operation share 1 baghouse

No wastes - except baghouse dust in the zinc operation

Baghouse dust 500-600 tons/yr

Capper Pass Refinery close down in the past few ~~years~~ JVS weeks. so now must find new alternative

Pb slag - less 5ppm goes to a non-haz landfill
Modern Land fill in Buffalo

EOU 205008

Will provide volumes of slag going to modern landfill.

Slag - less than 5 ppm Pb

composition { coal
soda ash
borax

This Pb is tested for Pb + Cd before it goes to landfill. If Pb too high then returned to Rotary Furnace

Electroplating sludge (F006), have not purchased in 3 years. This operation only took place for 1 customer for 2 years

Pb slag
↓
tested TCLP
↓
Modern landfill - prior to that Orleans Landfill

This slag has always been landfilled.

Slag loaded in dump trucks

364 Waste Haulers Permit

Slag pile - tested as well

Typically the slag

½ - 2 ppm of Pb.

Aluminum basically a melting process.

Baghouse dust prior to RCRA probably stored on site and then taken to a landfill. Since RCRA - exported to England aluminum dross → sold to a recycler ≅ 5-10 million lbs/year

Always sold to the recycler.

Al Baghouse dust → contains Pb + Cd, goes to haz waste landfill (2006, 2008) in Ypsilanti
≅ 3 loads/month 60-65 tons/month.

This all the aluminum operation.

Pre RCRA, Al baghouse dust accumulated on site and then landfilled

Zamac dust - goes to Modern or Orleans landfill tested for TCLP prior to being sent
≅ 1 ton per month Zamac dust

(12) JVS

Office refuse - dumpsters)
paper products - contractor
transfer station eventually
goes to Seneca county

Laidlaw is contractor

Drinking water comes from
Skaneateles Lake - County
water. Lake Ontario
also. No wells on site
or within 1 mile.

Hooked into city sewer
System -

3 USTs - Started in 50%, tanks
2000 gal diesel have been
2000 gal fuel gas replaced
1000 gal gas

New diesel tank put in
5-6 years ago. The other
two replaced in the past
10 years. Tanks tested

13 JKS

on a yearly basis.

Always had tanks in same general location. The diesel tank moved ≈ 10 years 100 feet

Maintenance of trucks performed on site - used oils

Used oils - Safety Kleen took off site up until one year ago - Began accumulating waste oil one year ago. Burned through a waste oil heat generator. 1-2 gal/hr

2-15000 gal aboveground tank back-up fuel No 2 fuel for AC operation. Normally use natural gas

Waste oil stored in 3 tanks now. Aboveground. Located in shop - physically poured into tank.

FOIL205011

Oil changes every 100

≅ 200 gal/month of waste oil generated

Batteries on a buy back business. Tires traded in as well.

Roth Brothers have never used batteries in the smelting operation

Lab operations:

Will review during site visit.

2-275 gallon tank used to use product storage above ground.

Maintenance at Plant 1 + Plant 2

All piping for aboveground
(for aboveground tanks)

Pre RCRA, some refractory
lining stored out back

Refractory lining - brick
85% alumina

Added on buildings for storage.

As you go north - newer
building

Outfalls originally started
in early 80's, 5 outfalls

002 + 003 combined in
late 1980's. ↑ in zinc was
reason for a1

H_2O being sprayed on under-
side of molds goes to
outfalls 2, 4, 5

14 JMS

Outfall 001 - receives storm h_2o from Pb furnace

Ion exchange unit to remove Pb - then goes to Sanitary sewer

Al cooling h_2o - outfall 003

Zinc cooling h_2o - outfall 005

Outfall 001, near Pb + Solder Baghouse

In the past few years began to stored in bins, pri

Outfall 003 - Alum

Outfall 001, Pb operations

(BV) JVS

Copper Incinerator - purchased insulated copper wire then sold copper - had a baghouse

Sweat Furnaces - 2 metals are physically joined. w/ 2 different melting points Zn/Fe
Al/Fe

not alloyed / This sweat operation operated for ≅ 15 years - stopped operating over the past month Mar 91

Oil/H_2O separator - closed catch basin., when the sweat furnace operation

FOIL205015

PVC insulated wire burned
up until 1980's - After
that only burned paper
insulated wire.

The PVC was corroded
wet scrubbers.

cable
Power Sheath (Pb sheath
removed - became product
for Pb operations, then
what remained was
paper coated wire - then
burned - copper - bailed +
sold - not melted)
Copper incinerators/furnaces
stopped using 1 month
ago. Started in early
1970's

The thrust of business
will become

(19) JVS

FOIL205016

Last year renewed air permits for 5 years. 1989

First air permits started in 1984.

Emission 17 → removed 2 weeks ago from air permit. stationary wire burner + rotary furnaces.

Pangborn - tied to Al crusher goes through dust collector

7 compartments Pb Baghouse (#1) 12,000 CFM

2 total of 5 Baghouses

Chip Dryer + Zamac unit Wheelabrator baghouse

20 JVS

* Facility will give us copies of the flowcharts + air permit stuff.

No wastewater tx plant or industrial sewers) no groundwater monitoring wells.

PCBs contamination.

Outfall 004 - sampled and found some PCBs - facility still does not know cause in early 80's

Non-ferrous 3341 SIC code

Do not handle any source of PCBs

Since that time, all scrap covered, oil/h2o separator installed

67 ppt now, as of last friday 300 ppm.

21 JVS

Incoming materials tested
Have transformers + capacitors on site have been tested every July.

On generator annual report, listed PCBs, these were transformers that were thought that may have been contaminated. These 3 transformers removed during 1989 + replaced ~~in~~ with new transformers.

Drainage ditch, tiled in last 3-4 years - before that open ditch. Receives stormwater from Roth Bros may also Receives runoff from Oberdorffer Foundries.

H & A → did soil borings within past year. They have found some hot spots in Plant 002 as far as Pb & contamination (soil contamination)

Have recently installed gw monitoring wells. Verbal conversation w/ H & A no apparent gw contamination.

The final report due out in ≅ 1 month

Hot spot by Al crusher north of Plant No 2.

Prior to 1980, some of baghouse dust stored in piles in this area. Think this may be reason for hot spots.

Think that there had been
6 gw monitoring wells
Installed. Some of
the gw wells, to see
if any of the surrounding
Industries may have impacted.

hot spots - areas of elevated
metal in soils.

No spills on site, no tank
ruptures or leaks

Not within the flood plains.

Oil/H_2O at Plant 001, adjacent
to Al turnings Storage.

Oil/H_2O Separator, adjacent
to Sweat Furnace.

This one moved ≈ 100 ft in
1985, new one installed.

 JVS

Industrial furnaces always for metal recovery. Never for haz waste treatment.

Dewatering pumps at outfall 002.

Outfall 002, cooling h2o from aluminum operations. At one point in time ~~we~~ they ~~were~~ were using a cooling tower - stop using.

PCB ~~005~~ analysis taken from Outfall 005 in Feb 1990, taken by state

Blowdown reference → goes to discharge point from cooling towers

1970-1988 used the cooling towers

25 JRS

What went to Dewitt Landfill prior to RCRA (1980) - everything that was not sold went to 1980 Dewitt Landfill. From 80-88 ~~at~~ only construction debris went there.

Cleaning Al

Plant 1 - aluminum chips/borings turnings

Began site inspection at 10^{45}

#1 New transformers installed Sub-station distributed power to plant 1 + 2, view to south

26 gvs

#2 View to northeast of Oberdoffer landfill area, area directly behind cars is end of BB property line

Chlorine trucked in, + transferred into Chlorine storage tank
Chlorine used to remove Mg + Hydrogen gas from aluminum

90% of material trucked in

#3 Storm drainage from Plant 001 goes to outfall 003 View to east.

#4 Parts Cleaner, self contained used on as a as needed. Safety Kleen unit leased view to west, Maintenance Shop in Plant 1

Molds coated w/ bone ash used as a releasing agent (raw material).

Titanium sponge used in alloy ingredients Mag manganese product storage

Cleaned scrap stored in metal drop bottom drums which is stored until being charged.

Charge well of Aluminum furnace fed into a hopper

#5 View to east Aluminum furnace - Charge well this unit hood feeds to a roof top baghouse

20 mil BTU/hours 4 Burners gas fired

#6 View to southeast of connection from Al furnace to rooftop Baghouse

③ Furnaces

2 at 125,000 lbs of Al can hold

1 at 90,000

Dross hoppers

1 Baghouse fire at Crusher Baghouse Plant 2 A&S

Make Al ingot + sows

Sows are 1000 lbs, cooling H_2O used.

Furnaces is poured by gravity into stargirl conveyor belt contains ductile iron molds, the conveyor belt goes through a cooling area H_2O sprayed onto underside of mold

29 JVB

\# 7 View to north, drums of Scrap metal stored. (Charge material)

Sows - remelt sow, purchased as scrap. May have moisture these are heated to remove moisture

Discharge point for Al Baghouse (rooftop) collected in 5 mil poly bag lined, corrugated cardboard box(Gaylord) boxes - this is then T shipped out.

\# 8 View to west, Baghouse collection point inside the metal doors

\# 9 View to north of Al Baghouse on rooftop, Buell baghouse

\# 10 View to east, storm h_2o runoff, south end of Plant 1

#11 View to East of aboveground Storage tanks for No 2 oil. Both No 2 oil, 5000 gal backup. Small red tank holds diesel oil. Been here since 82, secondary containment 82 also. Pipe leading

#12 View to southeast, filling point. Truck backs up here + takes a flexible coupling to fill tank. Partial filling ≤ 3-4 months.

The secondary containment 3 ft high wall + 1 ft wide, some cracks, surrounding storage tanks.

9-11% Silicon metal from China used as an alloy material

(310) JVS

Aluminum dross - contains ≅ 15% Aluminum

Aluminum Baghouse Dust Storage Area. ships once/wk, ≅ 40-43000 lbs of material goes to Michigan Disposal. Always stored here or in Plant 2.

#13 View to east, Aluminum Baghouse Dust Storage Area inside Plant 1

Chip Dryer + Zamac Baghouse, located on east side of Plant 1

#14 View to the northwest of Chip Dryer Baghouse

 JVS

#15+16 View to east, overview of the Al Turnings Storage Yard

#17 View to the South of the oil/H_2O Separator at Plant 1 in use since 1986

#18 View to west over view of outside aluminum turnings storage yard. The red dumpster belong to Laidlaw, construction debris, pallets

#19 Southern view, area paved since 1988 - Al Turnings Storage Area

Al dross always stored indoors

The Al Turnings Storage yard drains to Outfall 004.

 JVS

FO[illegible]028

#20 East view of Al Jennings Storage yard (ATSY)

#21 Oil/H_2O Separator at west end of ATSY, used to burn small waste oil tank stored here area covered for at least past 10 years — H_2O discharged to outfall 004, View is to southwest. Drums contain used oils 350 gal tank since 1980 for whole operation.

#22 Empty Drum Storage Area drums contained hydraulic oil, view to west. ± 30 55-gal on concrete, covered 3 sides.

Prior to 1980, does not know how oil from maintenance hydraulic etc

#23 Settling weir all concrete. in (Atsy) this drains to Oil/H_2O Separator. This is cleaned out periodically. Most likely the residues that are removed during cleaning disposed off w/ haz waste. Would receive drainage from turnings view to north.

Zinc operation located in northeast portion of Plant 1

Zamac reverberatory furnace view to east, has not been used in 2 yrs

Zinc Pot is the only way RB is processing Zinc

Zinc Pot & Zamac Reverb furnace - emissions also discharge to Chip Dryer Baghouse at Plant 1

burners inside JVS
Zinc pot has ~~two outside~~ JVS
water cooled, goes to 005
outfall made of high
alumina refractory material
≅ 4 ft diameter

Inertia conveyer brings material
~~Chip dryer to Aluminum~~ JVS
crusher to chip dryer
to magnetizer - then
have clean charge
material. Chip dryer
has a crush as well
this is not the Al crusher

#24 View to northwest of
Chip dryer. This unit
Vents to chip dryer baghouse

#2 Baghouse - Chip dryer
Zinc pot
Zamac reverb
furnace

FOIL205031

Chlorine goes through graphite pump use nitrogen gas to purge graphite pumps.

Broke for lunch at 12^5 pm.

"Started tour of facility - Plant 2 at 1^30 p.m.

Everything weighed at Plant 2 prior to off loading

New bulk storage units for lubricating oil - such. Started storing this way 2-3 years ago

#27 View to south of hydralic oil/lubricating oil - product storage

FO 5032

Spent antifreeze goes to Safety Kleen

3 waste oil tanks, 300 gallon Fornax unit equipped w/ burners (black oil) The other 2 tanks) 250 gal receives hydraulic oil from hydraulic equipment, maintenance. Started using these tanks for waste oil in past year Prior to using the tanks) the Safety-Kleen or another outside contractor.

These tanks are located in the north end of the maintenance shop

#28 View to northeast of the 3 waste oil tanks in Maintenance Shop Plant 2

#29 2000 gal tank on right
1000 gal tank on left
UST, tested in the
past 2 years not when it
was removed 10 years ago
western view

#30 Steam Cleaning Unit
inside the unit contains
another oil/H_2O separator,
water goes to stormwater
drainage to north + south, sump in
View to west
bottom. This unit has been
here since 1983. Concrete
floor, cinder block walls
floor badly stained

#31 2000 gal diesel fuel tank
that was moved ≅ 10 years
ago - adjacent to trailer
maintenance shop - west side
ground badly stained.

Fabrication / Repair shop - welding
Safety-Kleen type degreaser located

Scrap may be sorted by hand

Copper bearing material bailed

Pb billets (logs) - put through an extrusion press - to make solder wire used by automotive industry.

Aluminum product stored in east side of Plant 2

11 ft diameter, 11 ft long refractory lined furnace for Pb dross + flux Pb + tin solder. Rotary furnace (3m x 3m)

4

#32 View to the west of the rotary lead furnace

#33 View to south of Pb pots

material from rotary furnace to one of 4 Pb pots. All pots & rotary tilt furnace tied into same baghouse

#34 Small Pb tilt furnace for specialty alloys, view to South, (this unit used perhaps to once per month

2 - 20 ton + 2 - 60 ton capacity pots (Pb)

(40) JVS

h2o from lead casting units goes out to ionization unit the holding tank has a resin filter which captures Pb ions, then this water discharge to sanitary sewer. The resin filter changed 1/yr. goes to haz waste

#35 View to the northwest of Ion exchange unit

Lead dross storage area in bins, under cover, inside Concrete floor. Prior to 1980, was not always stored indoors stored outdoors in containers on a paved area

403

#36 Settling Chamber for the Pb rotary furnace. View to northeast

#37 View t north of Pb baghouse dust st... ge area, covered unit on concrete, spent lime out of Pb baghouse, goes out

7 Compartment Pb Baghouse = 70,000 CFM, under each compartment is a collection point

#38 View to southwest of collection points for Pb baghouse

Roll 2

#1 same as #38

41 JVC

#2 View to west, Close-up of 1 of the collection points to the Pb baghouse

3 View to west, rainwater runoff point from area surrounding Pb Baghouse 50 ft west from this spot is Outfall 001 sampling point.

Pb Baghouse is # 4.

Baghouse #5 dust collector

Baghouse #3 Al Crusher + Pangborn

Baghouse #1 on top of Plant 1 aluminum

#4 View to south, of spent lime from Pb Baghouse shipped out w/ Pb Baghouse dust

42 fvs

Stopped the facility tour at 2^{30} p.m. since Neal Schwartz needed to leave.

Dan made copies for us of the Part 373, facility maps, SPDES diagrams, Baghouse information.

Left the facility at 2^{45} p.m.

 JVS

8:35 a.m. April 30, 1990 Tuesday

Clarification the spent lime is really the ash from burning the lime bags before the lime goes into the baghouse.

The bags from the baghouse are disposed of w/dust as haz waste.

Bags are changed 2 x/yr during annual shutdowns December + July. Bags are also changed as a as needed basis.

All of the baghouses use lime. The lime prevents spontaneous combustion

Chip Dryer installed in 1970 (Rotary Drum) 40ft drum, 6ft in diameter
2 magnets 1 for turnings & 1 for fines
The resulting fines sold to electromagnetic people

44 JVS

F 5040

32 million lbs of Al turnings going through Chip Dryer

Zinc Reverb Furnace 1955
≅ 20,000 lbs of zinc capacity
800°F. Has not been used in 2 years

Roth Brothers began smelting at this site 1946-47

Chip Dryer Baghouse installed Fall 1980.

Al Baghouse (rooftop) stalled 1979.

~~Oct 1979~~ Lead Baghouse
the ICA (4 compartments) in 73
40,000 CFM
In 75 - Dust-dustless
In 76 add Carborundum
10,000 CFM 1 Comp

(45) JVS

Aluminum Crusher Baghouse
installed in 1977

Pangborn Baghouse now tied
in at Crusher, previously
tied into the 'sweat
furnace installed in 1988

Screw Conveyor brings dust down
from rooftop baghouse to a
collection point downstairs
in Plant 1.

Zinc pots in 1955, made
of ductile iron pot, built
into a refractory shell -
burners underneath
that fire at a target
hold 14,500 lbs of zinc

Lead pots hold 2 - 20 ton
2 at 30 ton - ductile iron
the 30 ton are welded

Cast steel (Pb) pots.

The Pb pot & zinc pots are purchased annually.

The Al operation began 1946-47
~~The #1 furnace rebuilt~~ MB

Steel sheet housing w/ a refractory lining - the average life of a furnace is 6½ years before a major repair - replace the brick - 19½ inch floor.

The refractory lining is disposed of at the haz waste landfill as (D006, D008)

They have had furnaces in the same generally area since the beginning of the al operation.

41 grs

Facility began storing Al Dust
in Plant 1 area at the
beginning of RCRA, 80-81 previous
to that some sold or may
have been stored outside
in a storage trailer in boxes

Lead Dust storage area started
in 80-81

Billets are casts from the
Lead ~~Pots~~ tilt furnace, then the billets
are put through the ~~to~~ press
through die to make the
wire. Billets are stored
in a pile inside plant 2
south of the wire extrusion
machine.

Small tilt furnace 3ft high
18 inches in diameter - billets
out of this as well. Tilt
furnace in the same spot since
55, furnace itself replaced

48 JVS

as needed.

Lead slag 700,000 lbs annually generated. ~~Sold to a recycler~~ in Ohio goes for disposal.

Aluminum dross is sold to a recycler 5-7 million lbs/year
This is made up from flux material + skimming from the top of the furnace.

Lead slag accumulated in a bin outside. No chromium, trace of cadmium, [illegible] haps some tin. Every batch of slag is tested to ensure non-toxic

Facility burns 99% of the waste oil (lubricating oils, hydraulic oils, anything that comes from machine

Generated ≅ 1000 gallons of waste oil

The waste oil tanks were used for the storage of new oil prior to using.

Oil skimmed off the oil/h_2o separator, this oil is burnered. The oil is stored into the waste oil tank. The h_2o overflows through a series of weirs and then piped to the drainage ditch (underground piping)

The in-ground oil/h_2o separator receives drainage from the oil turnings stalls. The drainage goes to this unit. Cleaned out bi-monthly. The person cleaning out pumps out oil into drum + then goes

50 JVS

to the hydralic oil/h_2o separator -

* Will provide us w/ exact dimensions of in-ground oil/h_2o separator.

Steam Cleaning sump is pumped out out into a settling tank inside this area. The settling tank is pumped out into a drum and taken to the waste oil tank by the hydralic oil/h_2o separator

The sump is 18 inches deep

The bins (stalls) were built in 1985, prior to that turnings were stored in piles in the area closer to the Oberdorfer foundry since the beginning of the Al operation.

Most often turnings ~~opera~~ are processed right off the trailer and not stored.

($60,000 ft^2$)

The remaining area of the ATSY paved in 1975, the last $20,000 ft^2$ paved in 1988-9 WS

$20,000 ft^2$ paved in 1989

* The ATSY ≒ $40,000 ft^2$

Solder Dross stored in metal containers delivered this way.

#5 Burner in Plant 2 Maintenance

Copper wire going up wall meters oil up to Burner + blower view to north

#6 piping leading to Burner view to north. Inside Maintenance Building at Plant 2

FO 048

Copper Rotary Wire Burning furnace has not been used in past year. Ran ≈ 500 lbs of wire/hr - manage insulated (paper) wire was tied into Crusher Baghouse and only ran when Crusher was not running. Installed in early 1960's

Al Crusher - crush sheets etc goes into rotary drum → magnetizes to remove any iron, scrap

#7 West view of Copper rotary wire furnace

#8 East view of Al Crusher plant 2

#9 East view of Conveyor leading into

53 JVS

FOIL205049

#9 cont

Al Crusher. The material pulled out charged directly to furnace. Put into operation in 1962. 5-20,000 lb/hour can be processed depending on whether sheets or small pieces. This unit is vented to Baghouse #3.

Fines always sold to electro-magnetic people.

#10 Iron stored that was removed by magnetic at Aluminum Crusher - this material stored outside & then sold to a recycler - view to north

#11 View to the northeast overview of storage area for plant 2.

#12 View to the east, overview of Storage yard at Plant 2

#13 South view of Dumpster sign says wood only — pick-uped ~~on a~~ by Laidlaw — weekly basis

#14 Coal for lead furnace (rotary) stored in bins / slag is stored in empty bins as well — north east area of storage yard outside Plant 2, view to the east

#15 Slag also stored in metal containers in a 3 side shed metal roof

#16 Bricks from cut off — when replacing rotary furnace, (Pb) View to the east.

 JRS

#17 View to the southeast of green staining on ground (at northeast) end of Storage yard. Fac rep unsure as to what this is.

#18 North ~~view~~ end of area where when they have repaired or taken up concrete from through the facility stored here. Photo taken northeast white areas appear to be concrete

#19 West view of Lumber yard new pots (Pb) and also old ones sold Zinc pot (used) also stored

#20 Southern view - Pile of Al fines + dust covered w/ blue tarp

#21 Close-up view - Old Zinc pot stored outside

56 JVS

#22 East view of radiators Stored outside at southwest end of storage yard

#23 Boxes of computer chips put through aluminum crusher – the plastic is burned off northern view

#24 Rows of empty drums stored at south end of storage yard the drums stacked on pallets appeared to have stored Al fines – ≅ 120 drums in poor condition. Southern view – rainwater (green) in some of the drums –

#25 Close up of inside the drum

(54) JVS

#26 Drums of Al slag (spilled) came from Richmond - to be processed

#27 North view of storage area

#28 West view of Baghouse #3 ~~xxxxx~~ receives discharge from ~~pangborn~~ Pangborn, Crusher

#29 Southern view of stalls storing electronic components

#30 Collection point for Baghouse #3, view to the west

#31 Baghouse #5, Pangborn dust collector —

50 JVS

#32 Northern view of Outfall ~~004~~ 001

Dust collector pulls out heavy particulates before it enters baghouse - receive air of the aluminum crucible

33 Dust Collector, view to east this then goes to the Pangborn Baghouse #5. metal structure erected on metal rods

#34 Sweat furnace - ~~recei~~ received metals physically joined, the metal w/ the lower melting point would flow out solids remove from door

Installed 1960 - April 1991
west view

[illegible]

FOIL205055

#35 Copper wire incinerator adjacent to sweat furnace this was tied to Pangborn Baghouse #5 - started in 1960s stopped a couple of weeks ago.
West view

Copper rotary had a wet scrubber - years ago -

#36 Oil/H_2O Separator west (behind) sweat furnace installed ≅ 1980 - discharged to Outfall 001, this area all filled in 1985. Separator is cleaned out 1 x/month - the sludge is dried out + then burned - oil + sludge brought to hydraulic oil/H_2O separator to dry.
View to west.

Strong smell of gas in this area.

DJ/JB

Brass, + red brass turnings stored outside in plastic covered boxes + drums will be sold - Stored outside under a shed

Cooling H2O from the pouring of Pb goes to the Ion exchange unit.

37 West view of the Copper Dust Storage area - Stored Aluminum crusher dust, previously stored dust from Cu wire incinerator, Sweat furnace + Cu rotary

38 East view of mw that has been installed for study

37 North view of outfall 001 Strong petroleum smell in the area -

(41) SNS

Roll #3

#1 North view of Outfall 001 — same as 39. Another MW from study seen on east side of outfall

#2 West view of Outfall 001, oil slicks on top of water coming from the outfall — trash + aluminum scrap sitting. The samples are taken from outfalls

#3 Northeast view of running h_2o - and drainage, covered with oil, facility claims this is not their property

#4 Close-up of runoff identified in photo #3, oily runoff

The property line is a few feet from fence line to encompass Outfall 001

62 ZVS

#5 Drum sitting outside - acc/ to facility not their property

#6 West view of oil slick on pavement

#7 All fines from afterburner goes to non-hazardous - as deer, stored in metal bins outside until disposed off. Southern view -

Northern end of facility property blackened, oily areas

#8 + #9 Drainage ditch discharges to Thompson Rd, covered w/ oily slicks

#10 Manhole cover of Outfall 004

63 JVS

#11 East view of Outfall 005, receives cooling h2o from Lance + zinc Operations, previously this area an open ditch, tiled in 1985.

#12 Air monitoring Station - at east end of facility east of ATSY, collects a sample every 3 days. Installed Nov 1990. To evaluate lead levels, only 1 sample returned - fac stated okay

#13 2nd Air monitoring station north of Plant 1, alongside railroad tracks on west side - view to northeast

#14 Close-up of Outfall 003, area leading to this outfall tiled in 85, previous to this open ditch, weeds growing here

(64) JS

FC 5060

#15 Drainage leading to the Outfall 002/003. View to the west, dark oily appearance to the water

#16 East view of ponded h_2o alongside east side of

#17 Black piles west of drainage area at Outfall 002/003

#18 Sump inside secondary containment for No 2 Fuel Oil Tanks - Concrete sump covered in h_2o - Sump ≅ 2 ft^2 Close-up view

#19 Inside wall of 2nd contain

65 JVG

#20 Southern view of the collection point for the chip dryer baghouse

#21 North view of the drainage area in front of Steam cleaning unit. badly stained

#22 West view of current site of 2000 gal diesel storage tank close-up

Al Crusher baghouse burned so facility tied Al Crusher to the Copper Rotary Baghouse This occurred in 87. Baghouse dismantled

Neil Swartz identified the location of the former Al Baghouse which was dismantled after a fire in 1987 - Started in 1975

(66) JVR

Then the copper baghouse became the Aluminum Crusher Baghouse - All the air permits reflect this change.

Ion Exchange Unit → 2 columns in unit tank 500 gallons. 5 gal/min per column. This process operates 5 days. This unit put into production 3 years ago. Resins are changed 1988.

Inground Oil/H_2O Sep
360 ft^3, receives runoff

Sweat Furnace Oil/H_2O Separator
= 80 ft^3

(41) JVB

Received MSDS Sheets for Al alloys

Facility will provide ICAP testing results of dusts & slag.

Also will provide soil sampling results from USTs -

The weather was a light rain in the morning, clearing up by noon - sunny high of 75°F.

Began facility tour @ 10:30 - finished up at 12:15. Began to ask questions.

They will send us the information

Samples are taken hourly - prepared. Anything scrap turnings

(63) JVS

metalagraph to look at microstructure.

#23 north view of prep room in lab, any scrap turnings are returned to the furnace in Plant 1.

Atomic absorption unit used for lead solder.

Storage of samples kept for ± 20 years QA/QC samples of alloys

2 Spectrometers used for aluminium + Pb.

Wet lab, titrating tin and ammonia reduction.
The number of samples taken from incoming lead material,

69 JRS

Any aqueous solutions go down drain.

No solvents used except perhaps 5cc of acetone used on rare occassions. Used HCl + sulfuric acid. These strong acids used solution dissolution.

Can see pure lead, 10% tin lead solder.

Product for customer is also tested for the specific amounts of alloy.

#24 South view of samples of alloys prepared to be purchased for specific customers.

Lab drains tied into sanitary sewer.

(70) JVB

The Plant has been in operation since 1950's

On the walk throu of the facility, it was not that there was ponded water due to the rain & that appeared to be oily in appearance

Left the facility at 1[15]

Jasmine V Schliesman

April 30, 1991

Attachment B

Photographic Log